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FLOOD INSURANCE STUDY, GARFIELD HEIGHTS, OHIO.(U)
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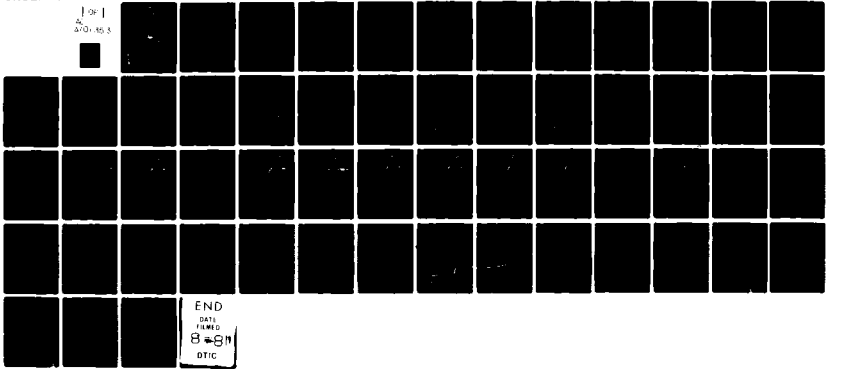

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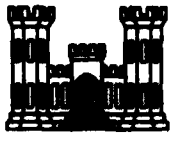
FLOOD INSURANCE STUDY

GARFIELD HEIGHTS

OHIO



PREPARED FOR THE
FEDERAL INSURANCE ADMINISTRATION

BY THE

DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
BUFFALO, NEW YORK 14207

MAY 1971

SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

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Garfield Heights

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*
Garfield Heights encompasses an area approximately four square miles and has a population of about 41,500 people. Mill Creek, Wolf Creek, Andover Creek and their tributaries provide drainage for most of the city. The city has a history of periodic flooding from these streams and also significant flooding from local runoff accumulation and ponding which enters have been taken by the city government to alleviate the various flood problems by providing a system of open and subsurface drains. However, these measures have only a partical effect on the local runoff that would be produced →cont.

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during the 100 and 500 year floods. Hilly terrain, lack of a complete drainage system, a combined storm and sanitary sewer system in some locations, lengthy culverts, are the main reasons for the flooding problems.

FLOOD INSURANCE STUDY

GARFIELD HEIGHTS, OHIO

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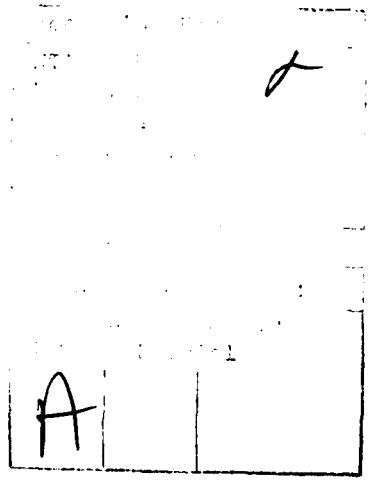
EXHIBITS

PLATES



FLOOD INSURANCE STUDY

GARFIELD HEIGHTS, OHIO

1. AUTHORITY FOR STUDY

This study was prepared at the request of the Federal Insurance Administration, U.S. Department of Housing and Urban Development, in accordance with the National Flood Insurance Act, Public Law 90-448, dated 1 August 1968, and subsequent criteria. This study provides data required for a Type-10 study in Garfield Heights, Ohio. Flood insurance rates for Garfield Heights will be developed, using data contained in this report, by the Federal Insurance Administration. Authority for the Buffalo District to prepare this study is provided by letter from the Office of the Chief of Engineers, ENGCW-PF, subject: Type-10 Flood Insurance Studies, dated 23 December 1970.

2. FINANCING OF STUDY

This study was financed by the Federal Insurance Administration by reimbursement of funds to the Corps of Engineers (Inter-Agency Agreement (IAA) - H - 8 - 71, Project Order No. 8).

3. DESCRIPTION OF THE AREA

Garfield Heights is an incorporated city within Cuyahoga County.

The City encompasses an area of approximately four square miles and has a population of about 41,500 people. Mill Creek, Wolf Creek, Andover Creek and their tributaries provide drainage for most of the city. The City has a history of periodic flooding from these streams and also significant flooding from local run-off accumulation and ponding which enters into residences through sewers. Some measures have been taken by the city government to alleviate the various flood problems by providing a system of open and subsurface drains. However, these measures have only a partial effect on the local runoff that would be produced during the 100- and 500-year floods. Hilly terrain, lack of a complete drainage system, a combined storm and sanitary sewer system in some locations, local restrictive obstructions, such as walls and lengthy culverts, are the main reasons for the flooding problems. The best method to prevent flood damage to future development in the study area would be to restrict first floor elevations to above flood levels and to develop a system of separate sanitary and storm sewers.

4. DESCRIPTION OF WORK

The work performed in producing the information and data contained in this report is in accordance with the criteria set forth in the "Guidelines for Flood Insurance Studies" published by the Corps of Engineers in January 1970 and subsequent directives.

a. Hydrologic Studies - The frequency of flood stages for the study area was developed from discharge - frequency relationships based on hydrologic studies by the Corps of Engineers.

b. Structure and Content Classification - Symbol designation and procedures used in this study are in accordance with those recommended by the Federal Insurance Administration. These designations are listed in Exhibit 1.

c. Depth - Damage Relationship Development - Depth-damage relationships were developed by determining average house criteria for the various structure and content designations considered as representative of the study area. Content and structural damage were estimated for the various levels of flooding. Damage estimates were based on observed and computed damage information already on file in the Buffalo District Office. Exhibits 2 through 16 show the depth-damage relationships in both tabular and graphical form.

d. Elevation-Frequency Relationship Development - Utilizing hydrogic data, U.S. Geological Survey maps, Cuyahoga County, Ohio, Sanitary Engineering Department topographic maps and field investigations elevation-frequency relationships were determined for seven index points on Mill Creek and five index points on

Wolf Creek. This information was plotted as a smooth curve at each index point as shown on Exhibits 17 through 28. Also shown on these exhibits is the flood hazard factor which most closely resembles each elevation frequency curve as shown in the Federal Insurance Administration publication dated September 1970. A profile indicated the 500-year flood, Base Flood, 10-year flood and the approximate ground elevations for Mill Creek and Wolf Creek are shown on plates 1 through 3.

e. Reaches and Zones - The flood zones were delineated by first determining the overflow limits for the desired flood and then extending the zone to the higher verifiable line, such as a street or bluff line, when possible. When physical boundaries were not available the zone limit is dimensioned from the nearest physical location. The study area consists primarily of an "A" zone, which is subject to flooding by the Base Flood. A "B" zone, which is the area subject to flooding by the 500-year flood but not the base flood, is not shown on the zone maps as the horizontal distance is not significant. The area in the "C" zone shown does not have an apparent flood problem. The "CB" zones shown do have apparent flood problems but a flood hazard factor was not determined. The zone maps for Garfield Heights are shown on plates 4 through 6.

EXHIBIT 1

CLASSES OF STRUCTURES AND CONTENTS

Class of Structure Designations

Kind or Type of Structure 1-4 Families	Basement
1 (One Story	B (Basement)
2 (Two Stories)	N (No Basement)
3 (Split Level)	
4 (Mobile home on foundation)	

CLASS OF CONTENTS DESIGNATION

F (All on first floor)

S (All on second floor)

FS (On first and second floor)

B (All in basement)

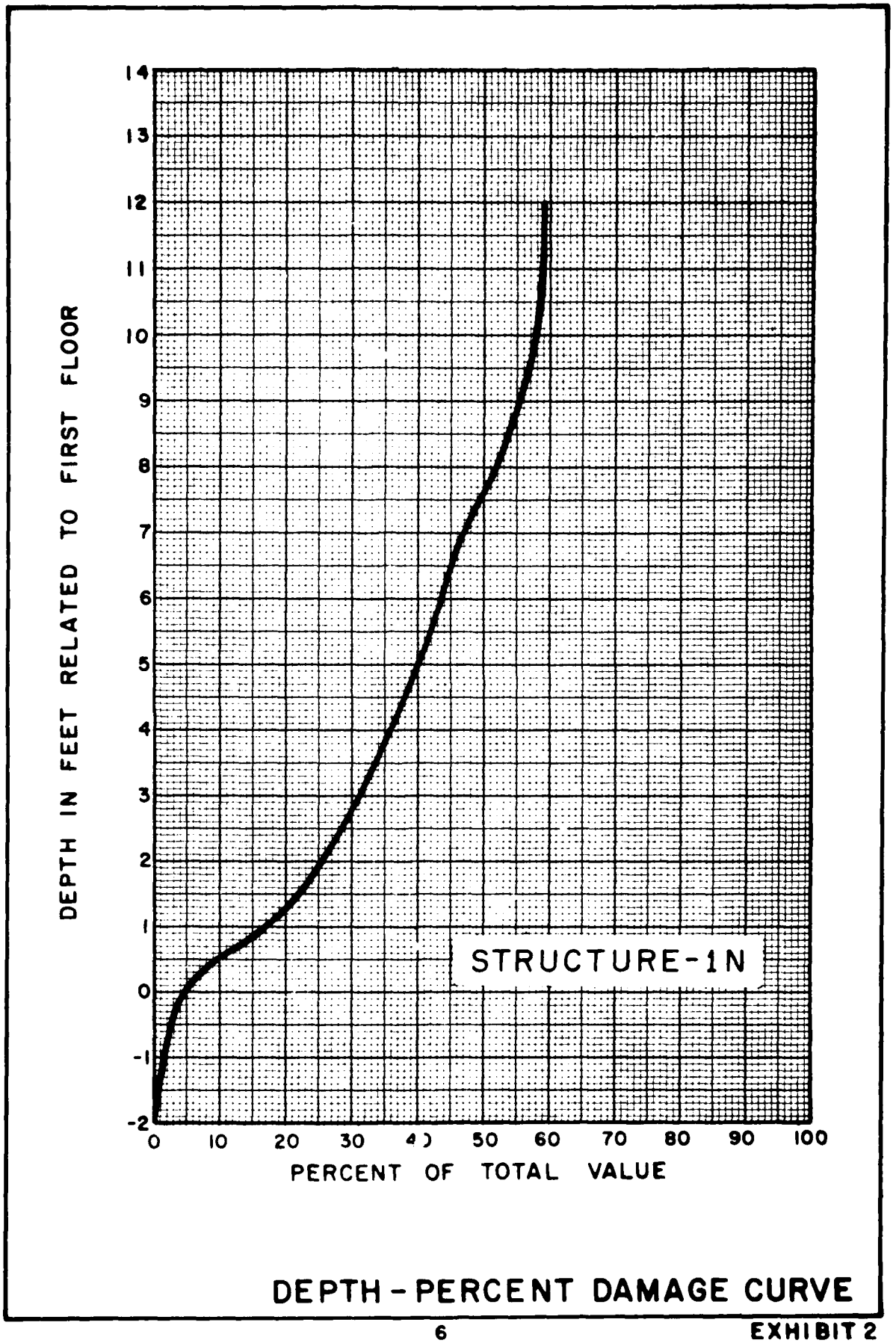
BF (Basement and first floor)

BFS (Basement, first and second floor)

TN (Split level without basement)

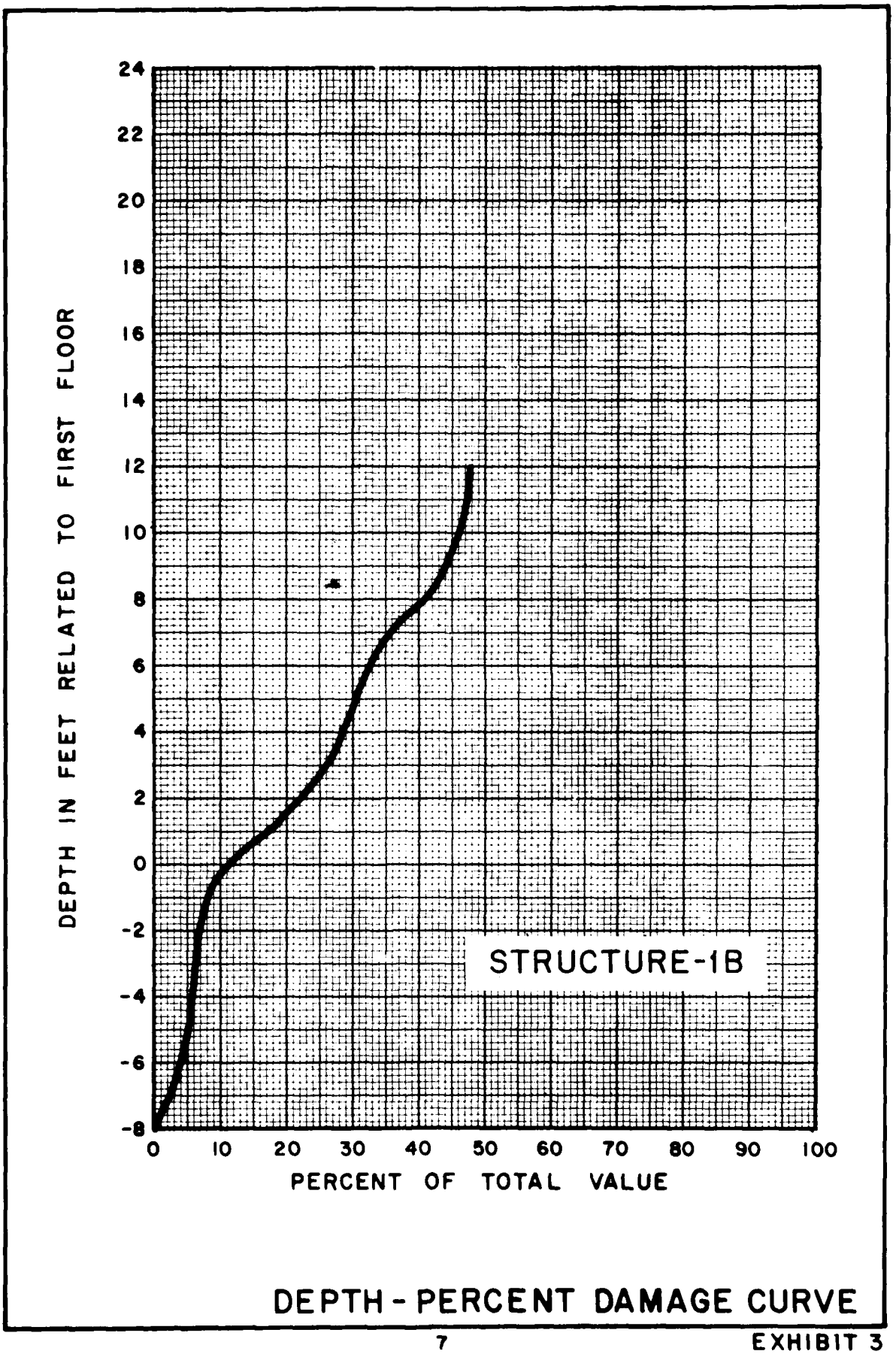
TB (Split level with basement)

M (Mobile home on foundation)



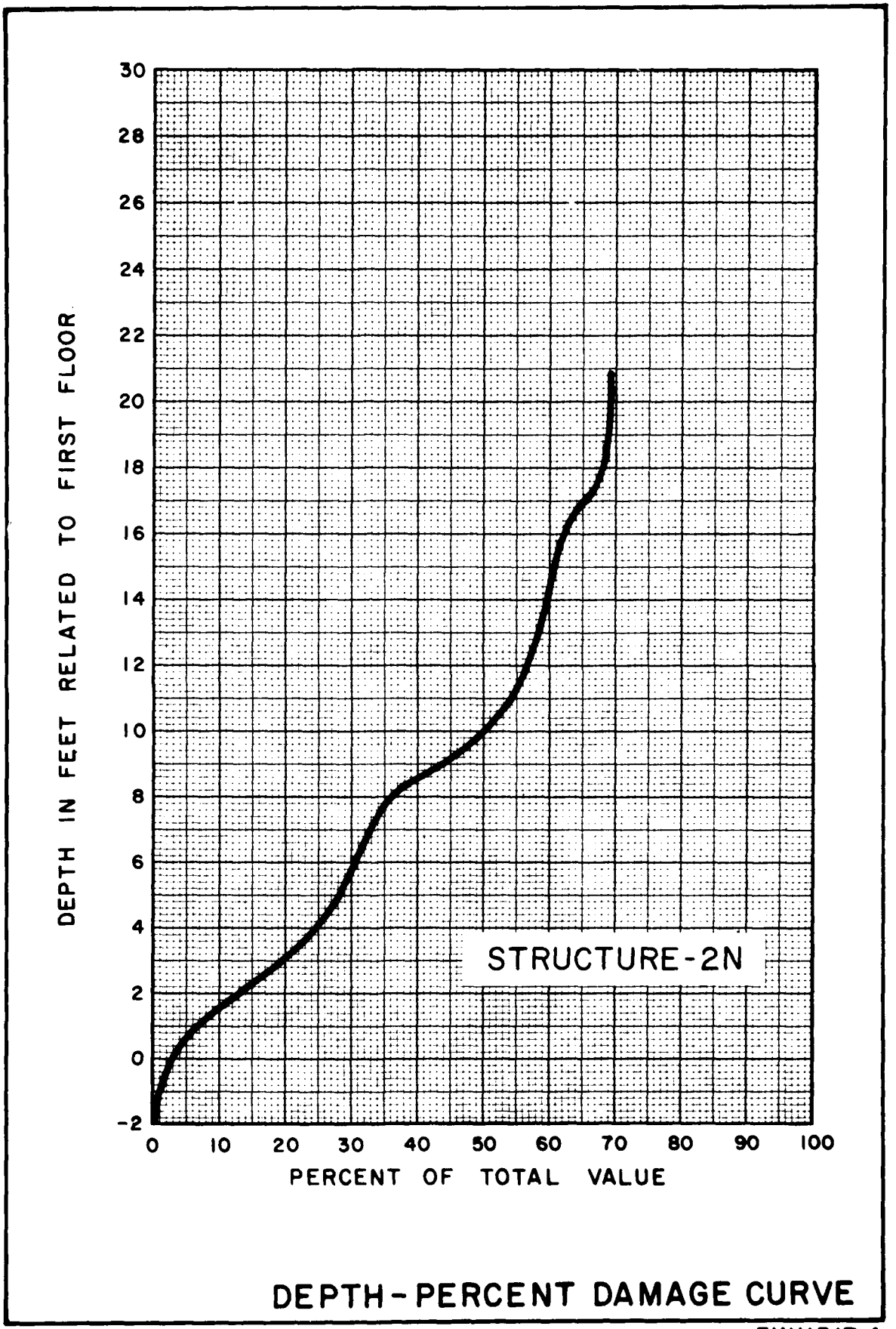
DEPTH - PERCENT DAMAGE CURVE

EXHIBIT 2



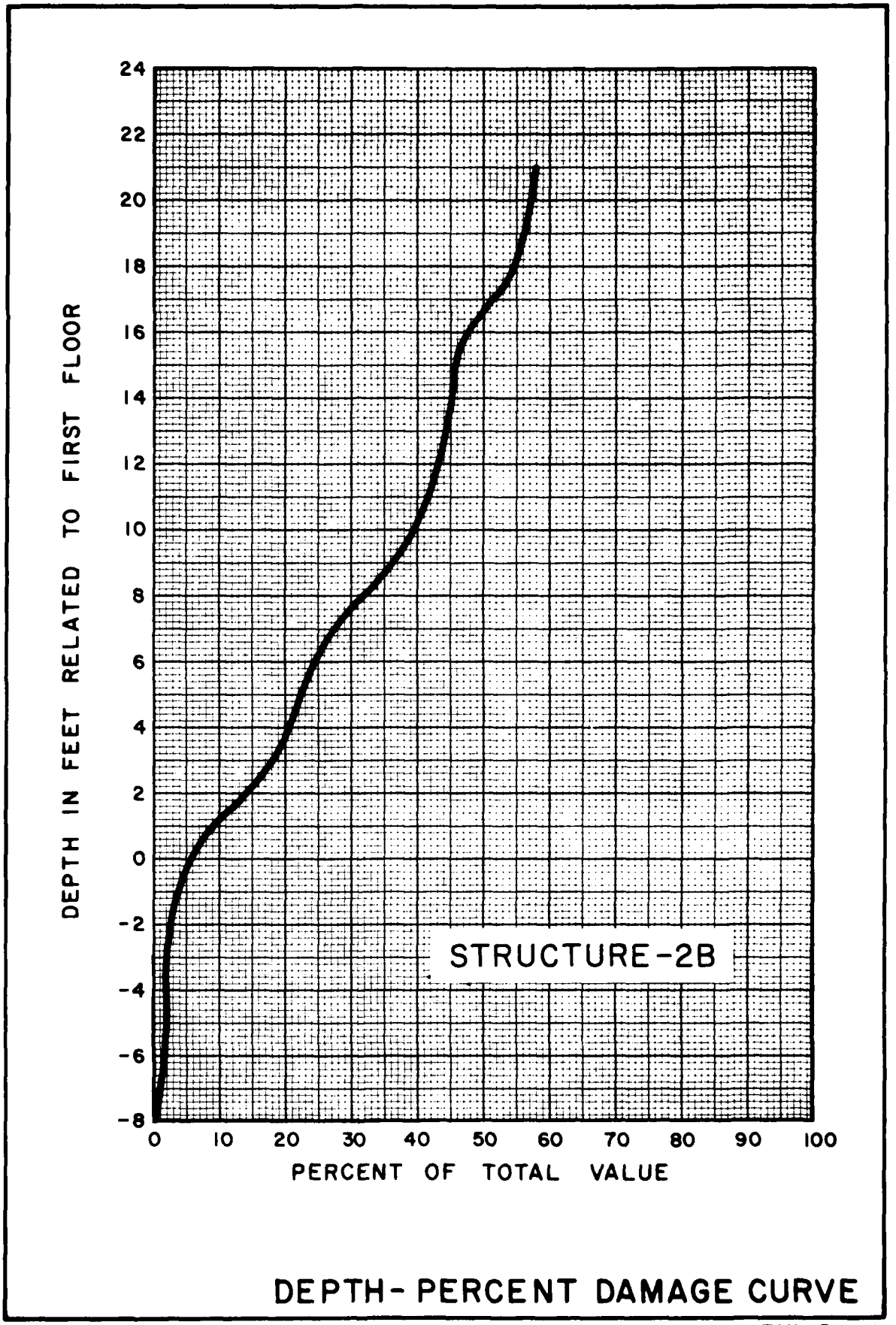
DEPTH - PERCENT DAMAGE CURVE

EXHIBIT 3



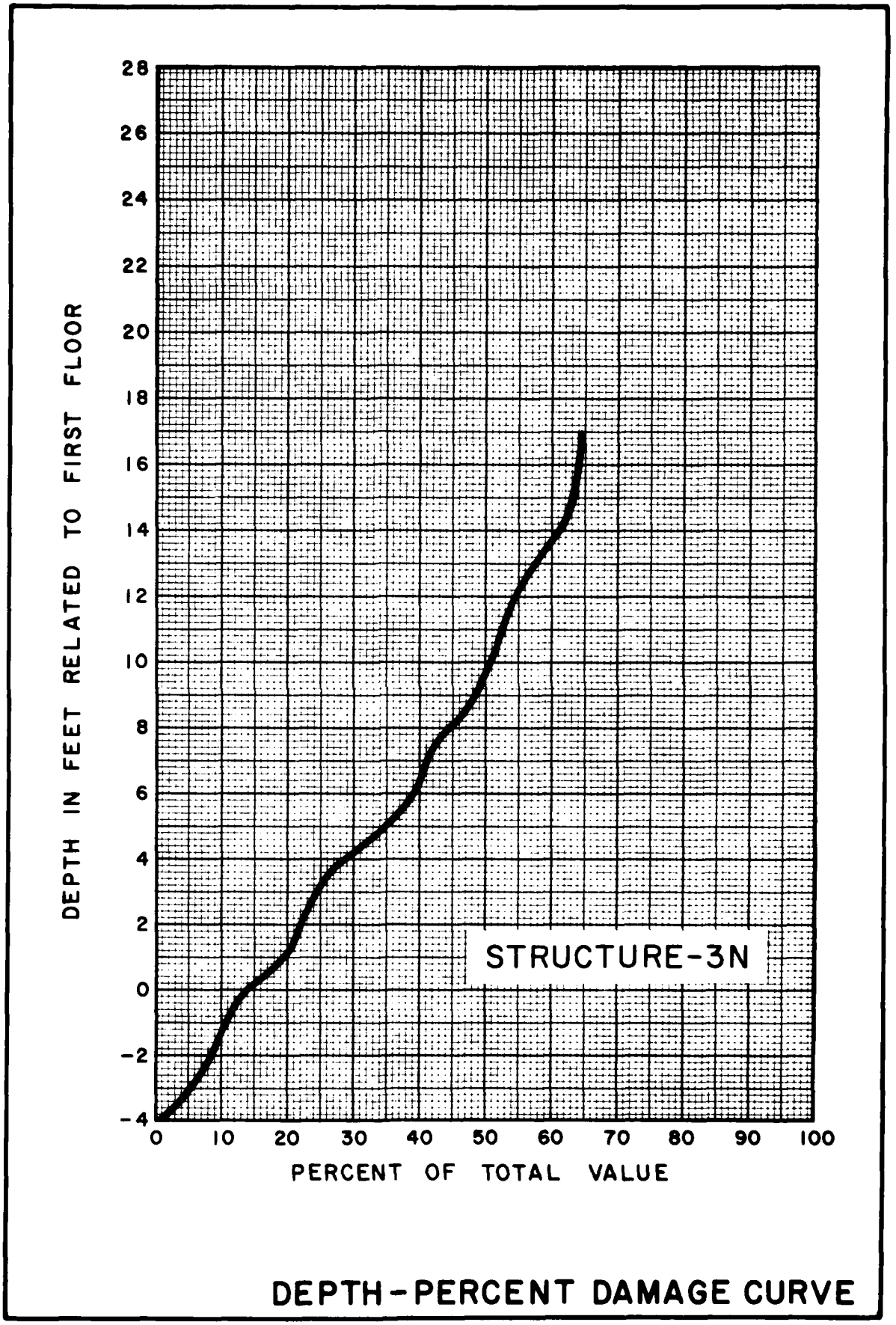
DEPTH-PERCENT DAMAGE CURVE

EXHIBIT 4



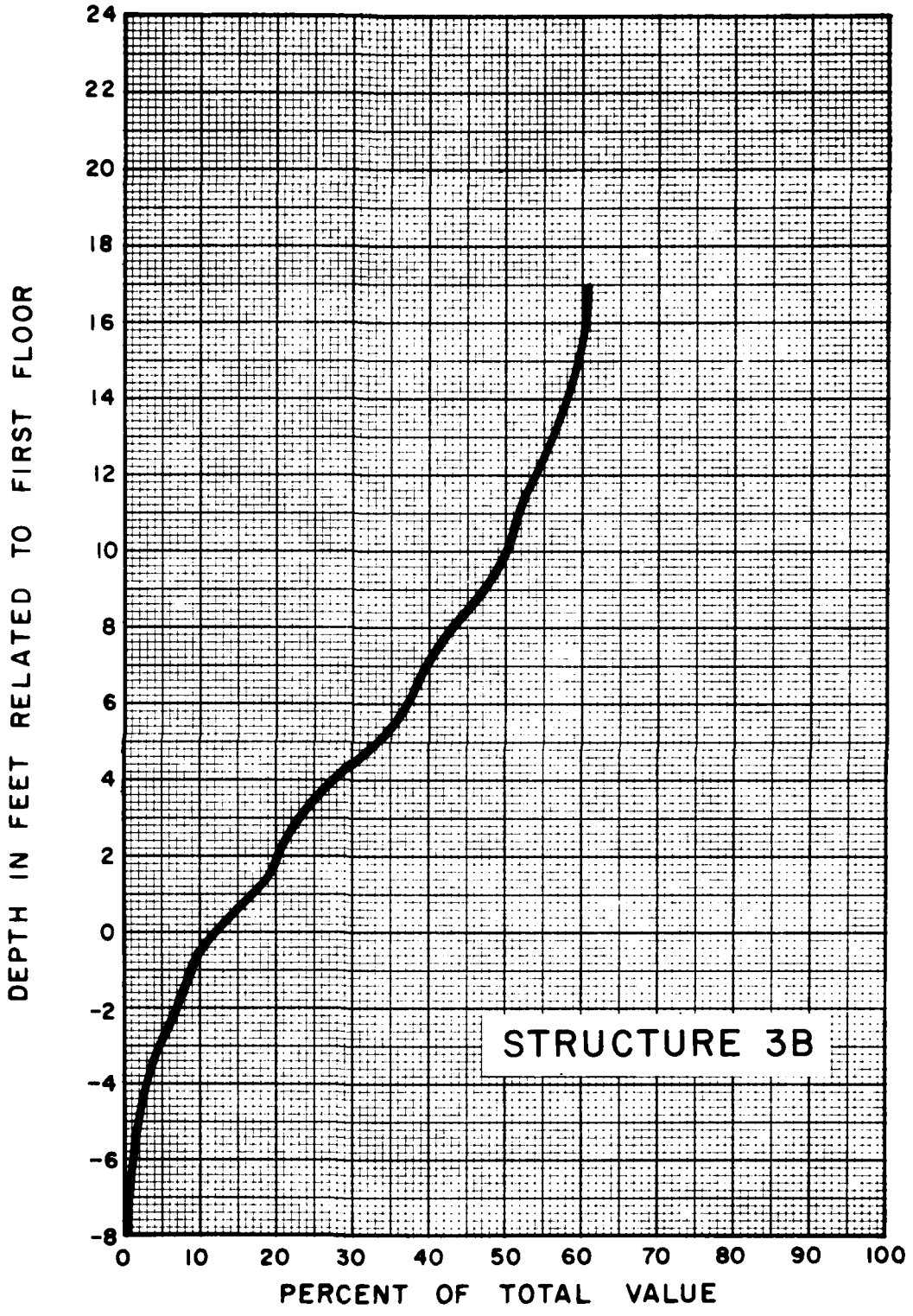
DEPTH- PERCENT DAMAGE CURVE

EXHIBIT 5



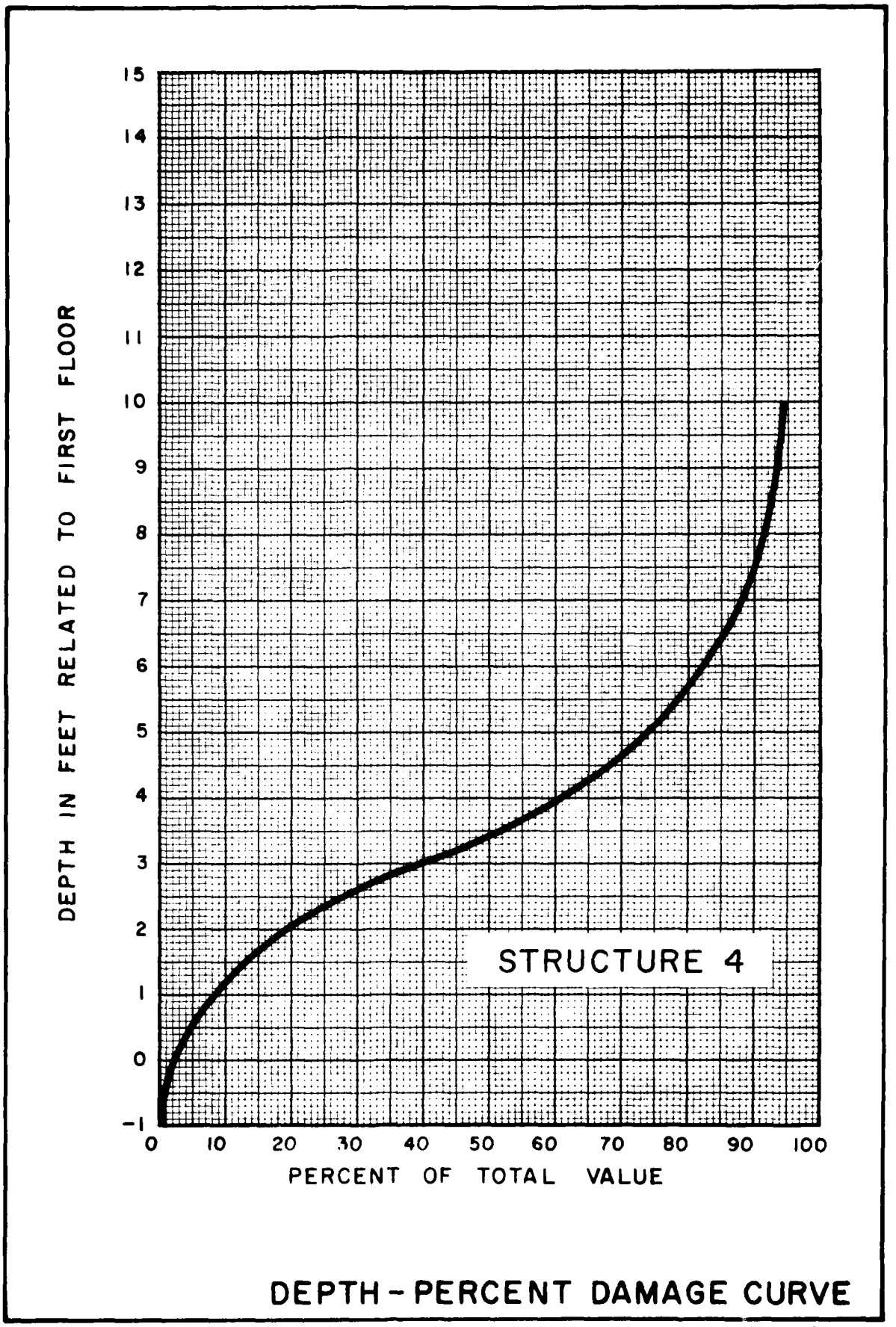
DEPTH-PERCENT DAMAGE CURVE

EXHIBIT 6



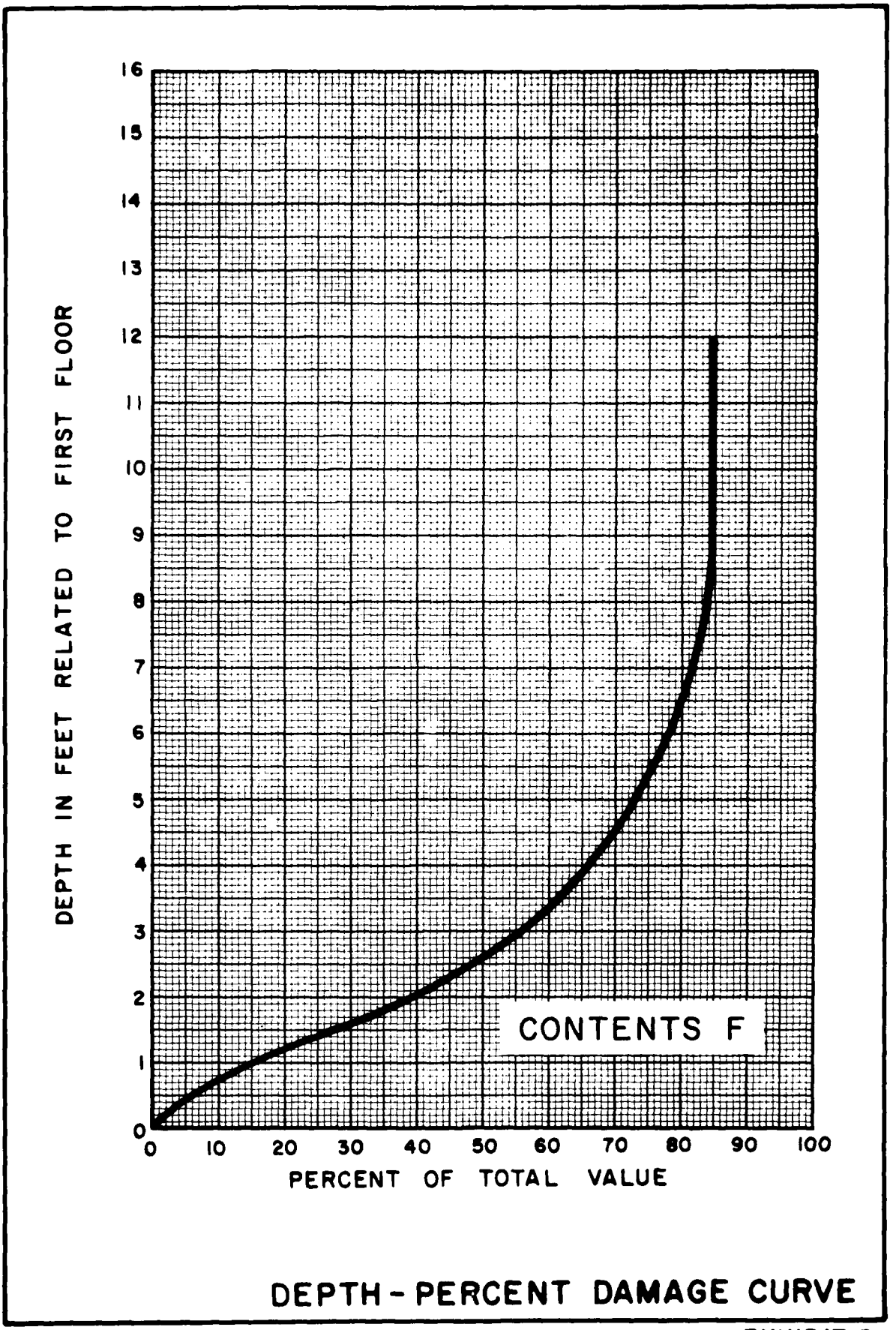
DEPTH-PERCENT DAMAGE CURVE

EXHIBIT 7



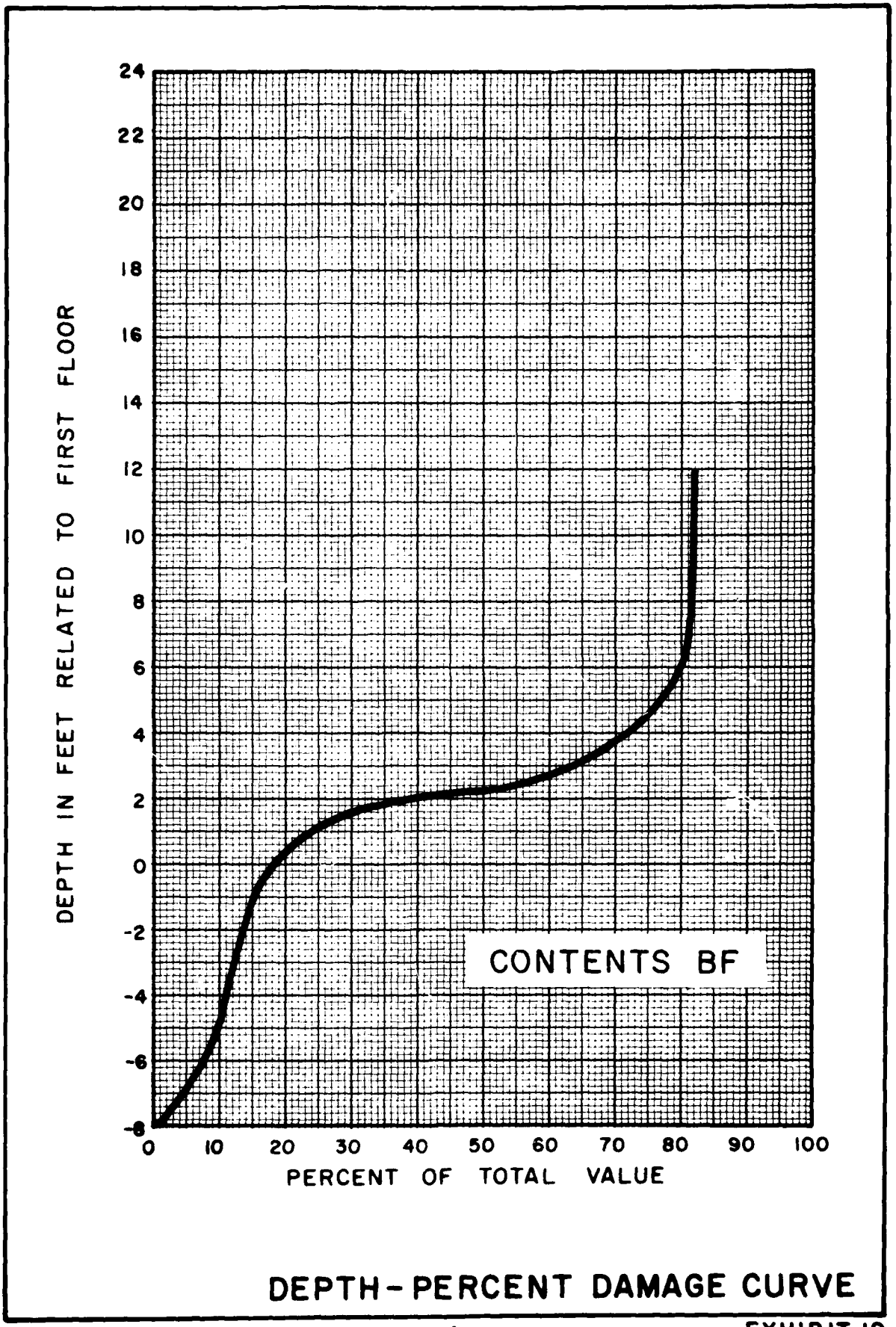
DEPTH - PERCENT DAMAGE CURVE

EXHIBIT 8



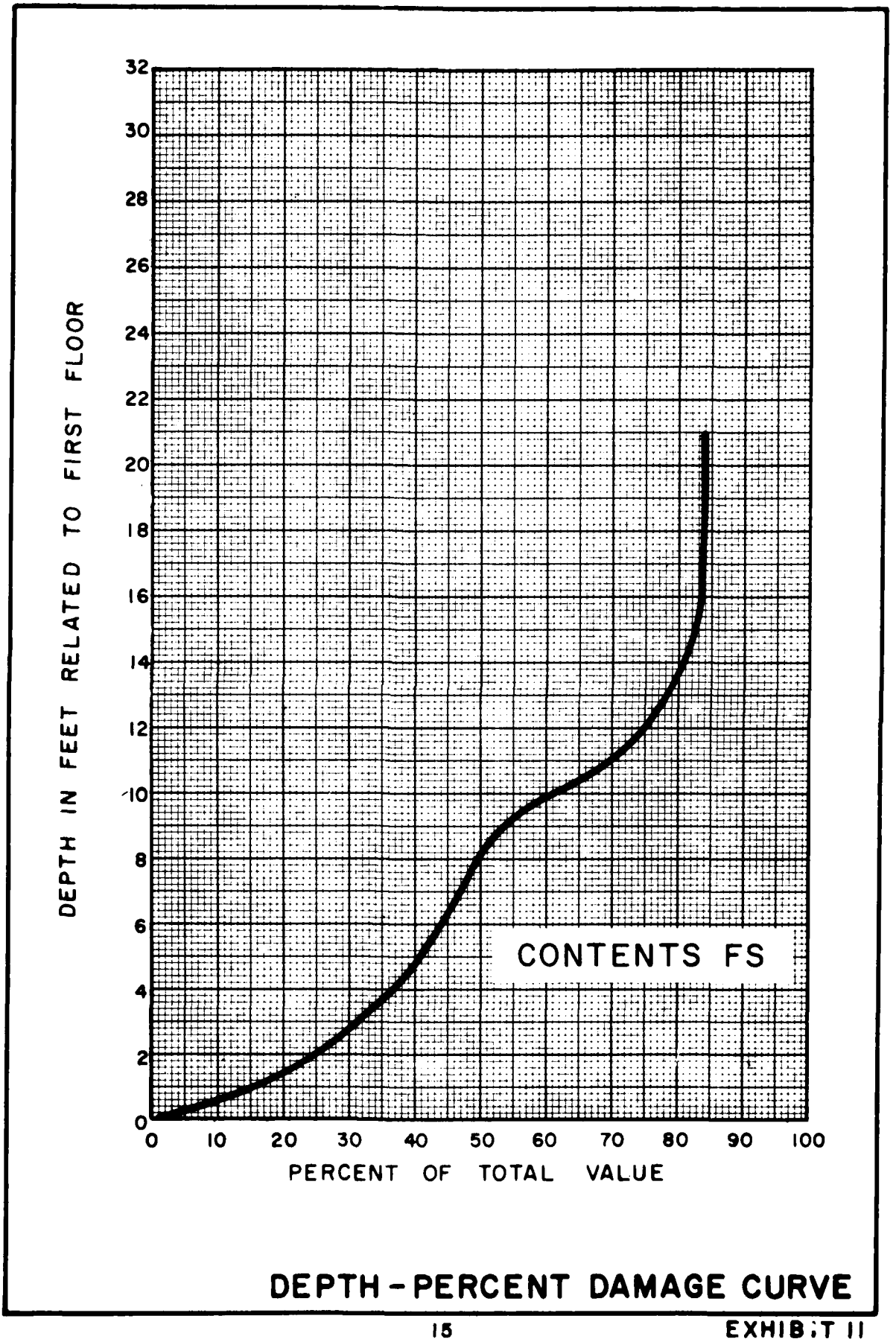
DEPTH - PERCENT DAMAGE CURVE

EXHIBIT 9



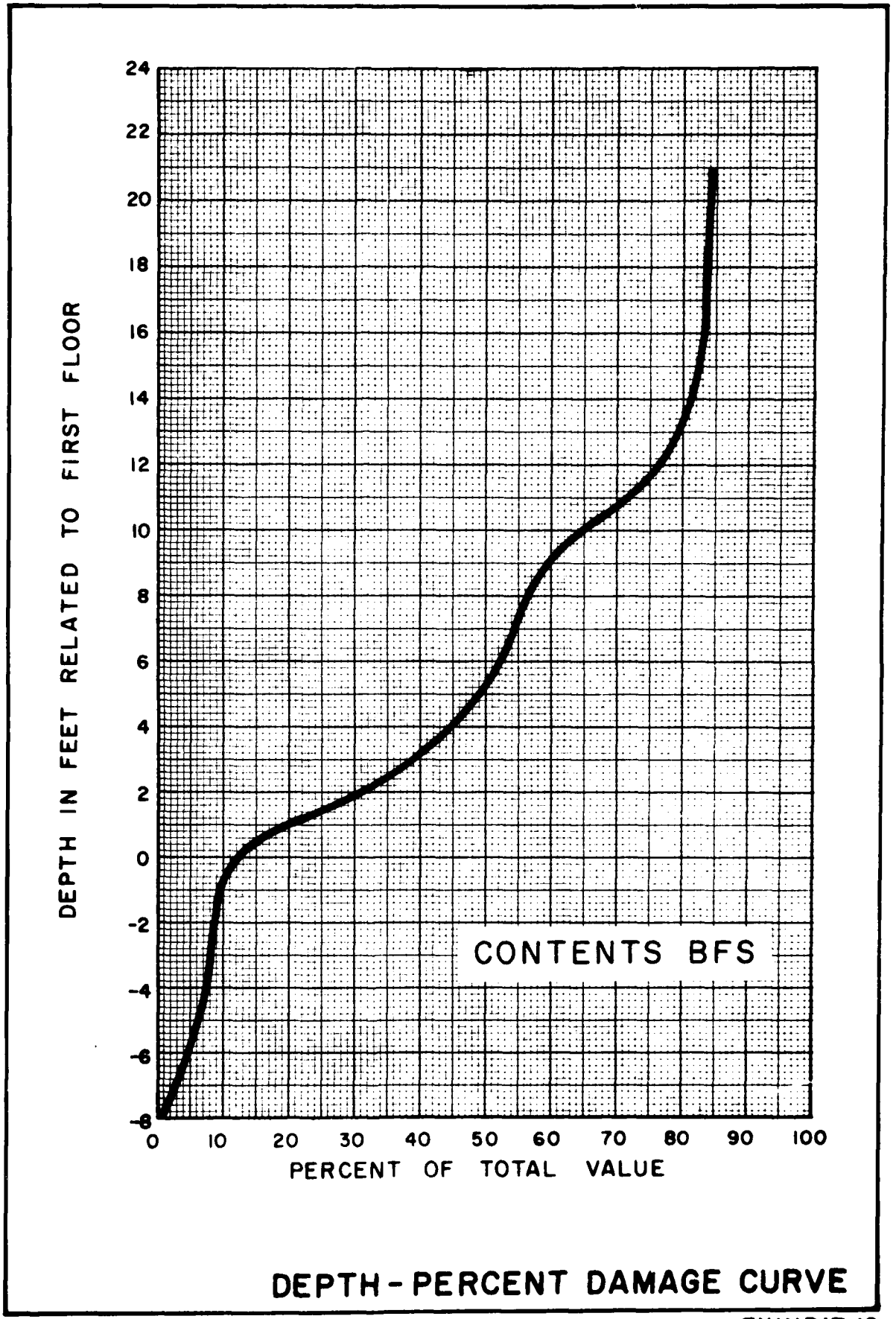
DEPTH-PERCENT DAMAGE CURVE

EXHIBIT 10



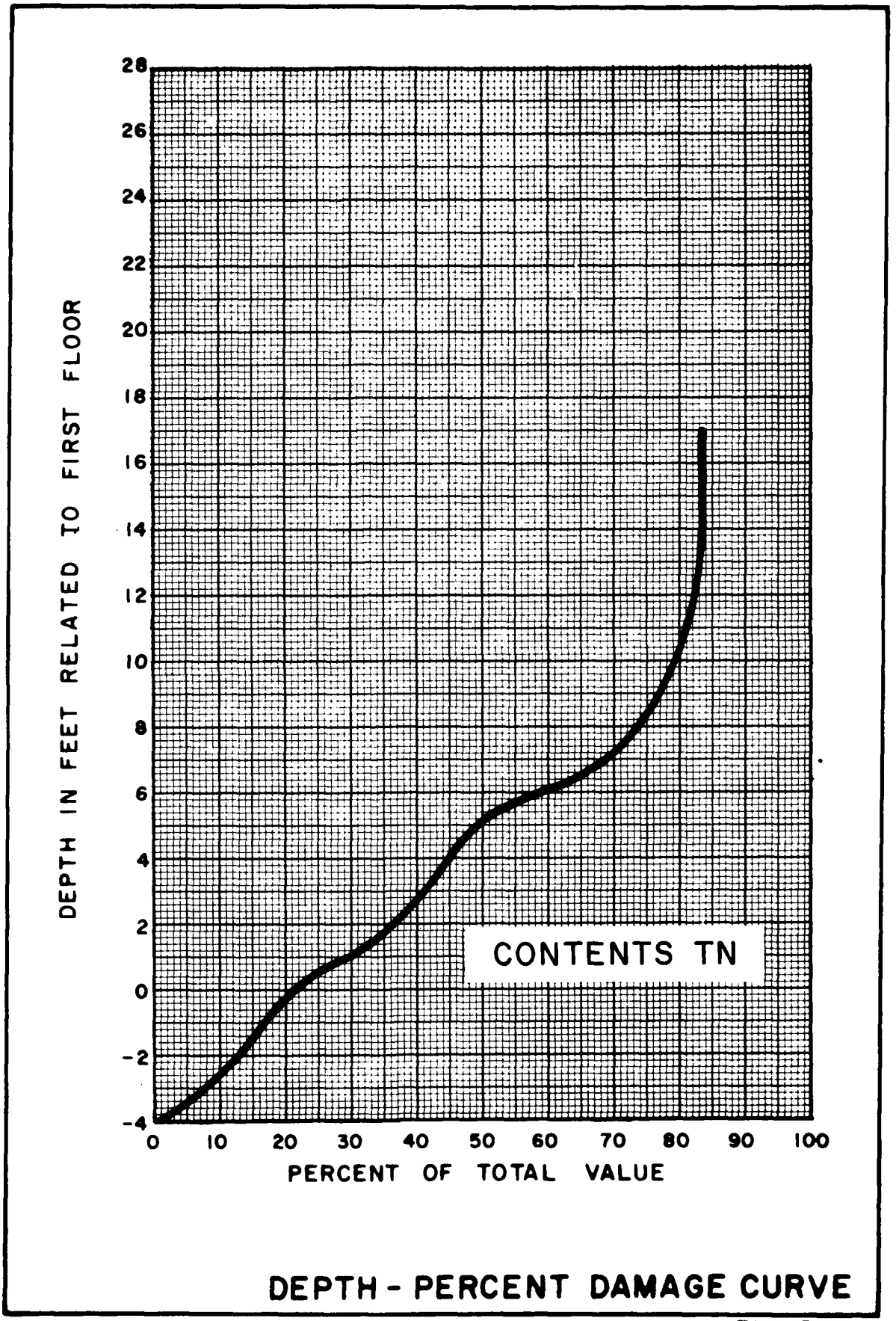
DEPTH - PERCENT DAMAGE CURVE

EXHIBIT 11



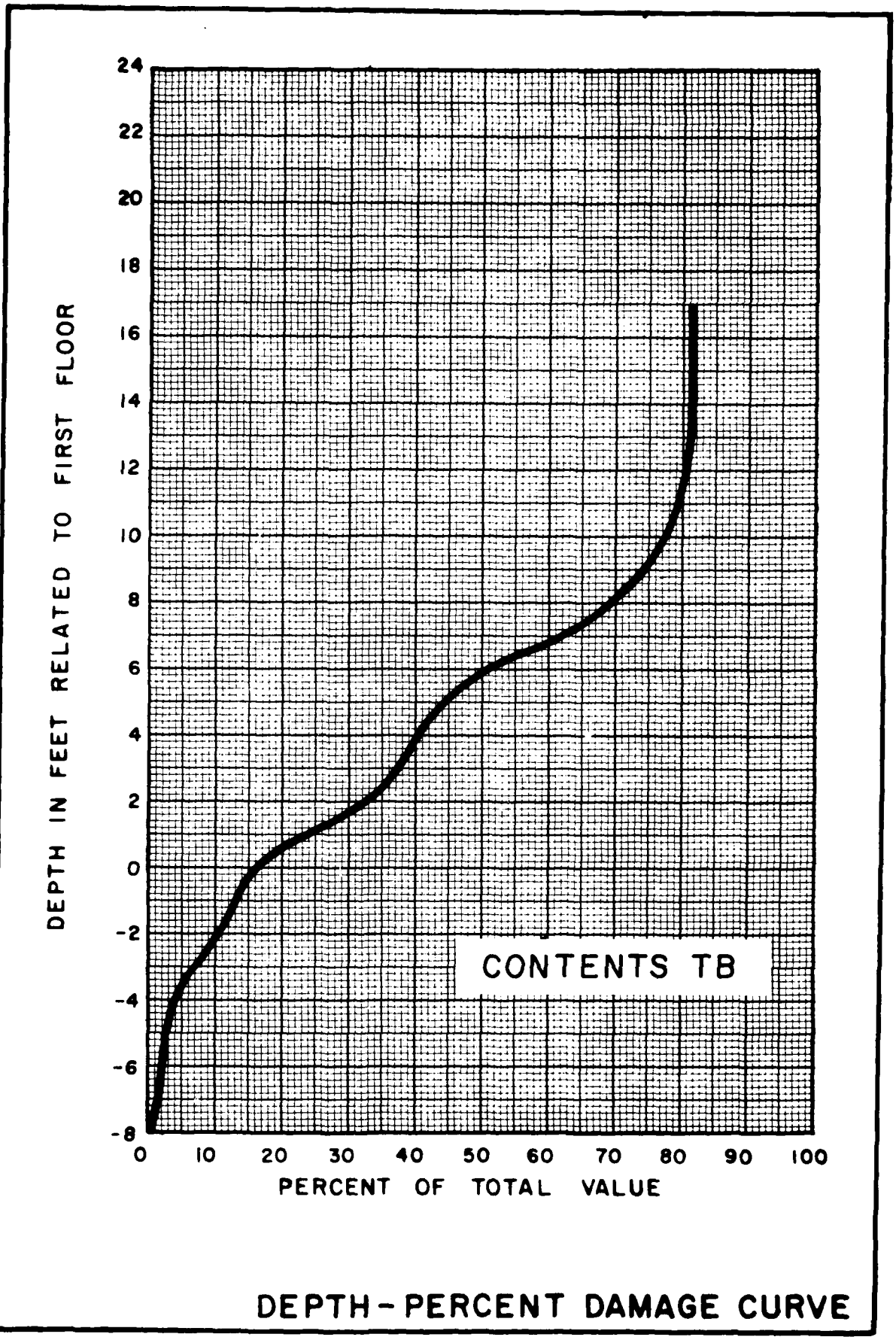
DEPTH - PERCENT DAMAGE CURVE

EXHIBIT 12



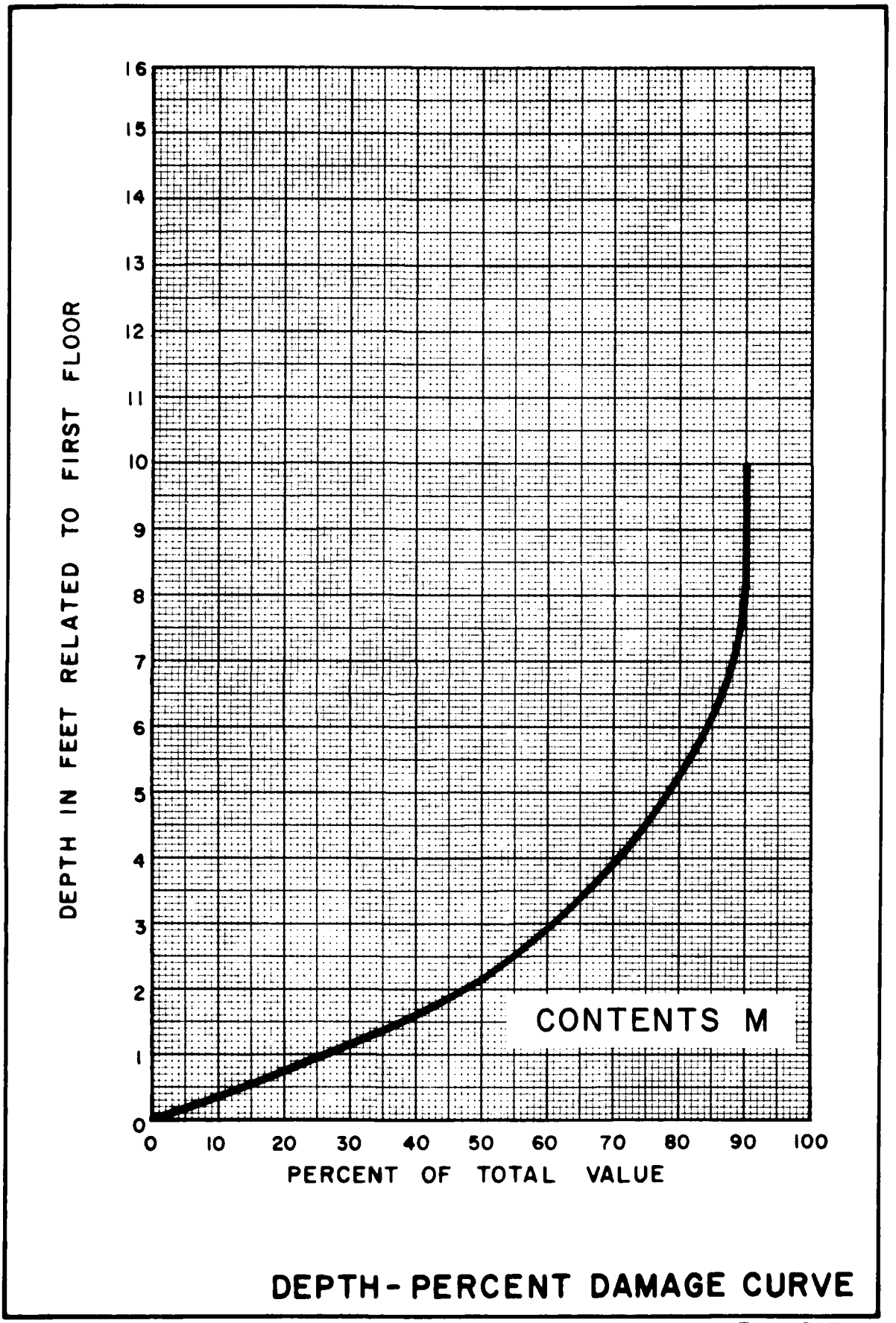
DEPTH - PERCENT DAMAGE CURVE

EXHIBIT 13



DEPTH-PERCENT DAMAGE CURVE

EXHIBIT 14



DEPTH-PERCENT DAMAGE CURVE

EXHIBIT 15

EXHIBIT 16

DEPTH-PERCENT DAMAGE DATA

STRUCTURE

Depth	CLASS						
in feet	1N	1B	2N	2B	3N	3B	4
-8.0		0.0		0.0		0.0	
-7.5		1.1		0.4		0.4	
-7.0		2.0		0.8		0.8	
-6.5		2.8		1.0		1.0	
-6.0		3.6		1.2		1.2	
-5.5		4.2		1.3		1.4	
-5.0		4.8		1.5		1.6	
-4.5		5.2		1.7		1.9	
-4.0		5.6		1.9	0.0	2.5	
-3.5		5.9		2.0	3.8	3.5	
-3.0		6.2		2.1	5.7	4.8	
-2.5		6.5		2.2	7.1	5.8	
-2.0	0.0	6.8	0.0	2.5	8.2	6.3	
-1.5	0.8	7.0	0.3	3.0	9.1	7.0	
-1.0	1.4	7.5	1.0	3.7	10.1	8.0	0.0
-0.5	2.5	8.3	1.9	4.6	11.4	9.4	0.7
0.0	4.3	10.0	3.0	5.9	13.5	11.7	2.3
0.5	9.1	13.1	4.8	7.5	17.1	14.5	4.8
1.0	17.0	17.0	6.9	9.6	19.3	17.1	8.2
1.5	22.0	20.0	9.5	11.9	20.9	18.9	13.0
2.0	25.7	22.3	13.0	14.3	22.0	20.2	19.3
2.5	28.8	24.2	16.6	16.6	23.1	21.4	28.0
3.0	31.6	25.8	19.9	18.3	24.3	22.6	40.5
3.5	34.0	27.2	22.3	19.6	25.6	24.3	52.0
4.0	36.3	28.5	24.5	20.7	27.8	26.9	61.0
4.5	38.2	29.7	26.3	21.7	31.5	30.2	68.3
5.0	40.2	30.7	28.0	22.5	34.8	33.1	74.0
5.5	42.0	31.7	29.2	23.5	37.0	35.2	78.7
6.0	43.7	32.8	30.5	24.5	39.0	36.8	82.5
6.5	45.2	34.1	31.5	25.8	40.3	38.2	85.5
7.0	46.8	35.7	32.5	27.4	41.4	39.5	88.0
7.5	48.9	37.9	33.7	29.3	42.4	40.6	90.0
8.0	51.7	40.7	35.8	31.8	44.6	42.7	91.6
8.5	54.0	42.7	39.0	34.1	47.1	45.2	92.7
9.0	55.7	44.2	43.0	36.5	48.8	47.6	93.5
9.5	56.9	45.3	47.1	38.3	50.0	49.0	93.9
10.0	57.9	46.1	50.2	39.7	50.8	50.0	94.0
10.5	58.4	46.8	52.6	40.8	51.6	50.8	
11.0	58.9	47.3	54.2	41.8	52.3	51.5	
11.5	59.0	47.8	55.5	42.6	53.1	52.2	
12.0	59.0	48.0	56.6	43.2	54.0	53.0	
12.5			57.4	43.9	55.4	54.0	
13.0			58.3	44.3	57.3	55.6	
13.5			59.0	44.8	59.6	57.0	
14.0			59.5	45.1	61.2	58.0	
14.5			60.0	45.5	62.3	58.7	
15.0			60.5	45.9	63.2	59.3	
15.5			61.2	46.4	63.8	59.7	

EXHIBIT 16 (Con't)

DEPTH-PERCENT DAMAGE DATA

STRUCTURE

Depth	CLASS						
in feet	1N	1B	2N	2B	3N	3B	4
16.0			62.1	47.3	64.2	60.0	
16.5			63.3	49.0	64.3	60.3	
17.0			65.0	51.3	64.4	60.5	
17.5			67.0	53.2			
18.0			68.4	54.7			
18.5			68.8	55.7			
19.0			69.0	56.3			
19.5			69.1	56.9			
20.0			69.2	57.2			
20.5			69.3	57.6			
21.0			69.4	57.8			

EXHIBIT 16 (Con't)

DEPTH-PERCENT DAMAGE DATA

CONTENTS

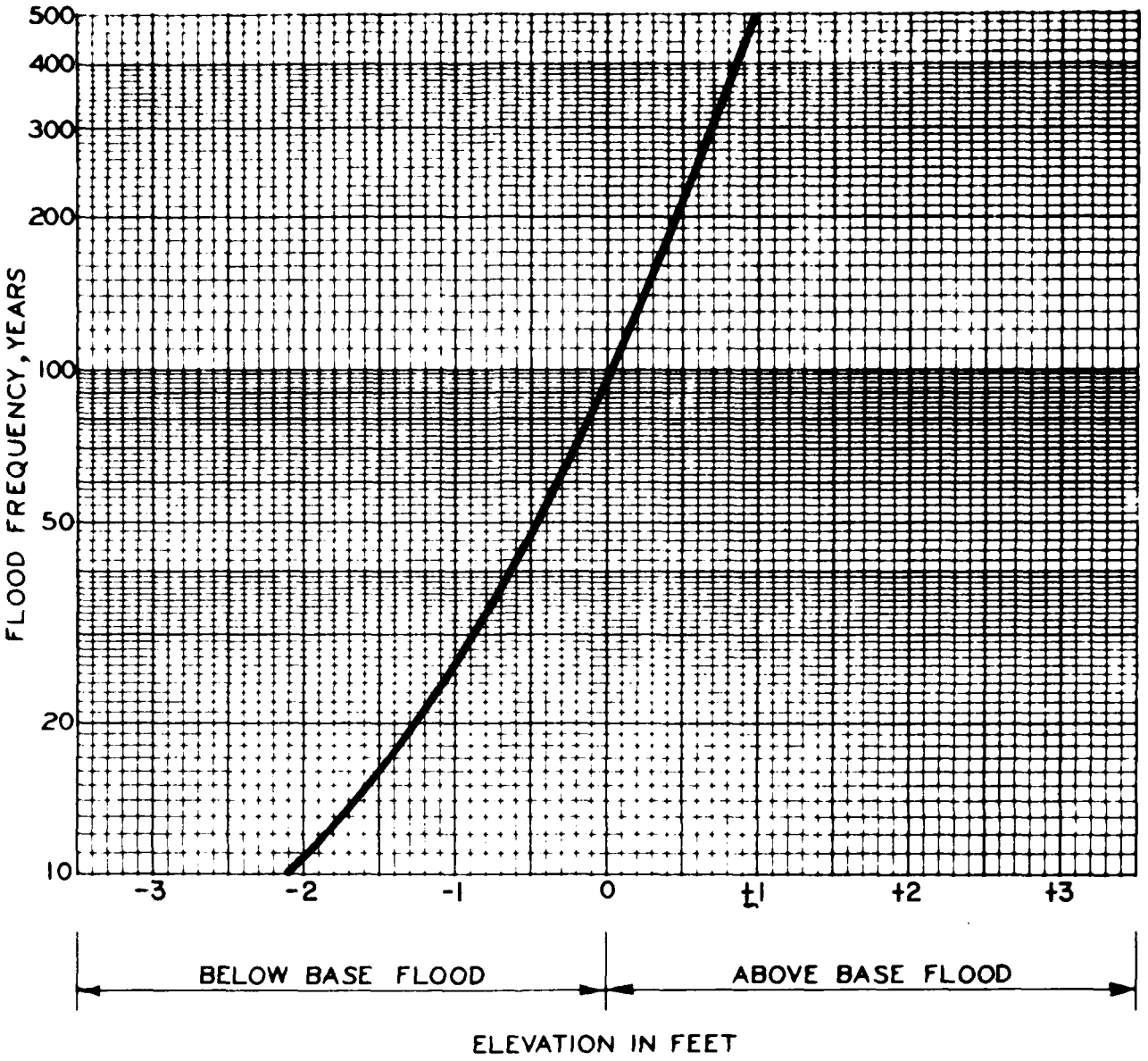
Depth in feet	CLASS F	BF	FS	BFS	TN	TB	M
-8.0		0.0		0.0		0.0	
-7.5		2.8		1.7		0.9	
-7.0		4.8		2.9		1.3	
-6.5		6.3		3.9		1.6	
-6.0		7.7		4.7		1.9	
-5.5		8.8		5.3		2.0	
-5.0		9.8		6.0		2.1	
-4.5		10.7		6.5		2.7	
-4.0		11.4		7.0	0.0	3.6	
-3.5		12.2		7.5	5.2	5.2	
-3.0		12.9		8.0	8.8	7.2	
-2.5		13.3		8.4	11.3	9.0	
-2.0		14.0		8.8	13.3	10.7	
-1.5		14.7		9.2	15.0	12.0	
-1.0		15.7		9.7	16.8	13.0	
-0.5		17.0		10.2	18.5	14.0	
0.0	0.0	18.8	0.0	12.0	20.7	15.3	0.0
0.5	6.0	21.0	9.0	15.0	24.2	18.2	13.5
1.0	15.0	24.1	15.5	19.5	29.5	23.7	26.0
1.5	28.5	29.0	21.0	25.5	34.2	29.0	37.0
2.0	40.0	43.5	25.3	31.0	37.3	32.9	46.5
2.5	48.7	55.2	29.0	35.3	39.6	35.3	54.3
3.0	55.7	62.5	32.0	39.0	41.3	37.3	61.0
3.5	61.2	67.6	34.5	42.2	43.0	39.0	66.3
4.0	65.9	71.5	36.9	45.1	44.7	40.6	71.0
4.5	69.5	74.4	39.0	47.4	46.6	42.3	74.9
5.0	72.8	77.0	40.8	49.4	48.9	44.3	78.2
5.5	75.5	78.7	42.5	51.0	52.6	47.0	81.2
6.0	77.8	80.0	44.2	52.3	59.1	51.0	83.6
6.5	79.6	80.9	45.7	53.4	64.9	56.0	85.7
7.0	81.1	81.3	47.2	54.5	69.0	61.3	87.6
7.5	82.4	81.6	48.6	55.4	72.0	65.5	89.0
8.0	83.3	81.7	50.0	56.4	74.3	69.0	89.8
8.5	83.9	81.8	51.5	57.7	76.1	71.9	89.9
9.0	84.0	81.9	53.6	59.3	77.4	74.0	89.9
9.5	84.1	81.9	56.5	61.5	78.5	75.6	89.9
10.0	84.2	82.0	61.5	64.9	79.6	77.0	89.9
10.5	84.3	82.0	66.5	68.5	80.3	78.1	

EXHIBIT 16 (Con't)

DEPTH-PERCENT DAMAGE DATA

CONTENTS

Depth in feet	CLASS F	BF	FS	BFS	TN	TB	M
11.0	84.3	82.0	70.7	71.9	81.0	79.2	
11.5	84.4	82.0	73.6	74.6	81.5	80.1	
12.0	84.4	82.0	75.8	77.0	82.0	80.9	
12.5			77.6	78.7	82.3	81.5	
13.0			79.0	79.9	82.6	81.8	
13.5			80.2	80.8	82.8	81.8	
14.0			81.3	81.6	82.9	81.8	
14.5			82.0	82.1	83.0	81.8	
15.0			82.7	82.6	83.0	81.8	
15.5			83.1	83.0	83.0	81.8	
16.0			83.5	83.2	83.0	81.8	
16.5			83.8	83.4	83.0	81.8	
17.0			83.9	83.6	83.0	81.8	
17.5			84.0	83.7			
18.0			84.0	83.8			
18.5			84.0	83.9			
19.0			84.0	84.0			
19.5			84.0	84.0			
20.0			84.0	84.0			
20.5			84.0	84.0			
21.0			84.0	84.0			



NOTES:

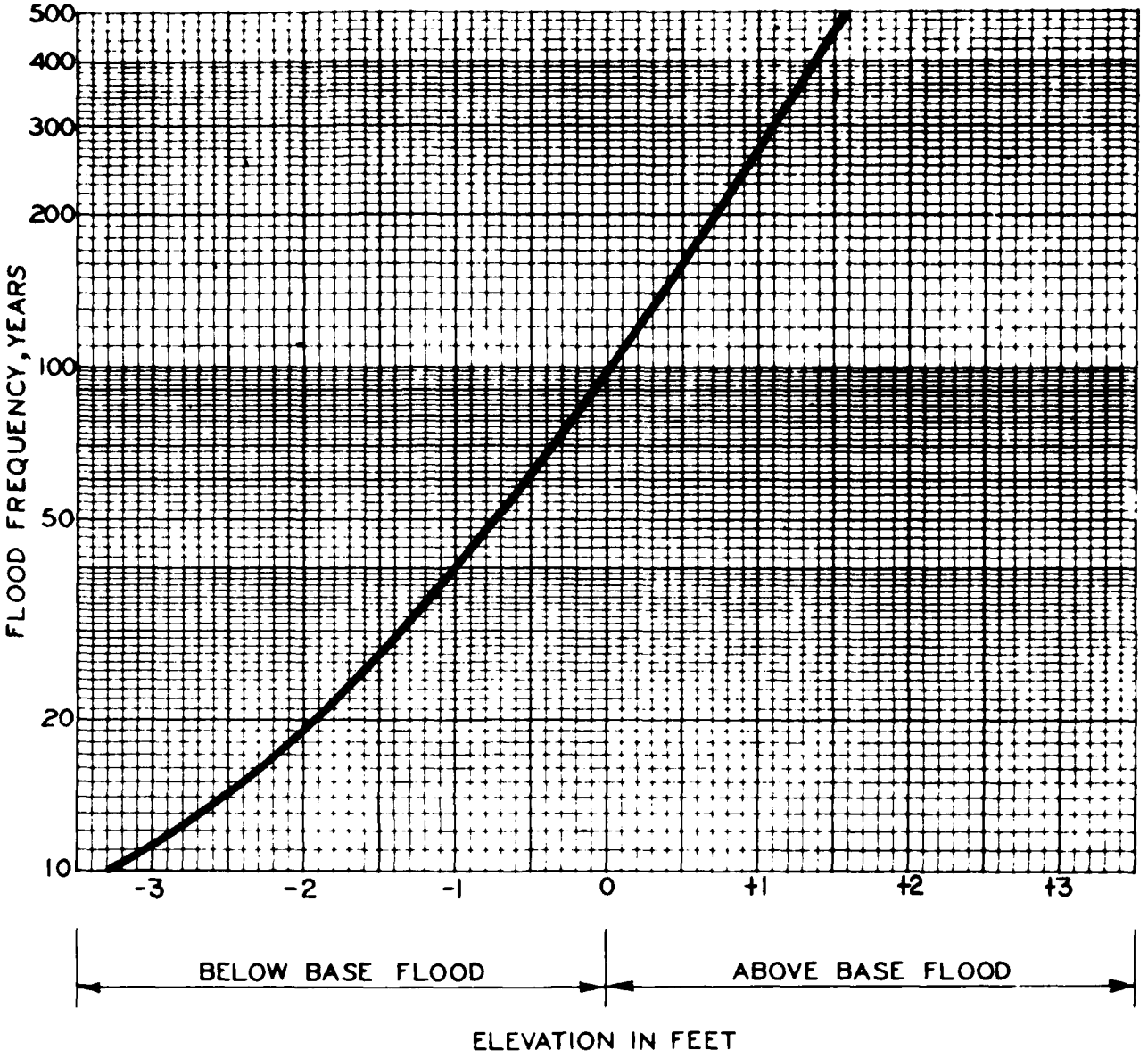
1 CURVE CORRESPONDS TO FLOOD HAZARD FACTOR NUMBER 020A

2 CURVE DEVELOPED FOR INDEX NUMBER 1 MILE 3.45

PLOTTING DATA	
FREQUENCY YEARS	FLOOD ELEVATION
SPF	
500	794.5
100	793.5
25	
10	791.4

FLOOD INSURANCE STUDY
GARFIELD HEIGHTS, OHIO
MILL CREEK
ELEVATION FREQUENCY RELATIONSHIP
CORPS OF ENGINEERS, U S ARMY
BUFFALO, NEW YORK, DISTRICT
PREPARED FOR
FEDERAL INSURANCE ADMINISTRATION
MAY 1971

EXHIBIT 17



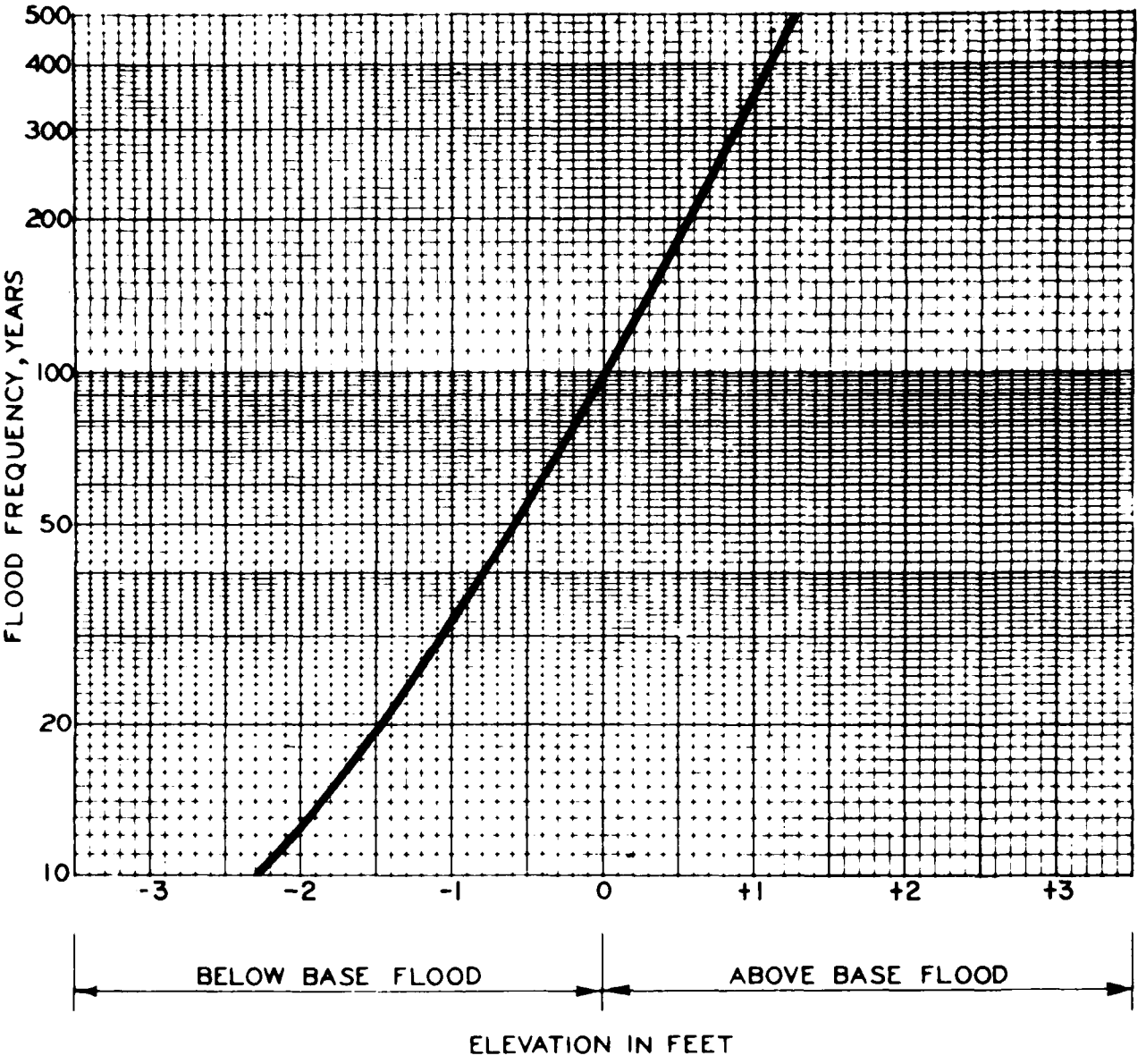
NOTES:

1. CURVE CORRESPONDS TO FLOOD HAZARD FACTOR NUMBER. 035A
2. CURVE DEVELOPED FOR INDEX NUMBER. 2 MILE 3.65

PLOTTING DATA	
FREQUENCY YEARS	FLOOD ELEVATION
SPF	
500	801.6
100	800.0
25	
10	796.7

FLOOD INSURANCE STUDY
GARFIELD HEIGHTS, OHIO
MILL CREEK
ELEVATION FREQUENCY RELATIONSHIP
CORPS OF ENGINEERS, U S ARMY
BUFFALO, NEW YORK, DISTRICT
PREPARED FOR
FEDERAL INSURANCE ADMINISTRATION
MAY 1971

EXHIBIT 18



NOTES:

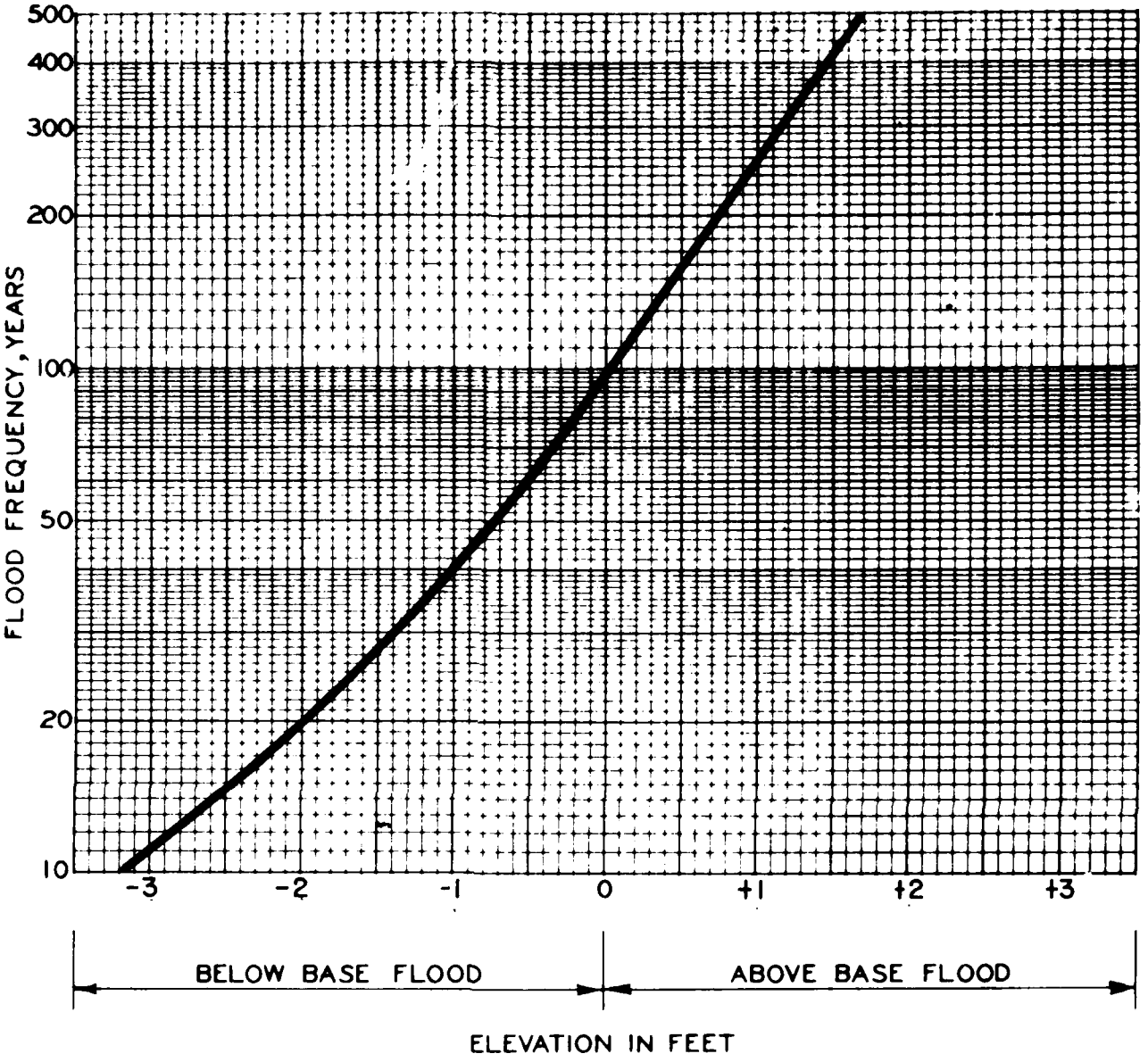
1 CURVE CORRESPONDS TO FLOOD HAZARD FACTOR NUMBER 025A

2 CURVE DEVELOPED FOR INDEX NUMBER 3 MILE 3.85

PLOTTING DATA	
FREQUENCY YEARS	FLOOD ELEVATION
SPF	
500	806.7
100	805.4
25	
10	803.1

FLOOD INSURANCE STUDY
GARFIELD HEIGHTS, OHIO
MILL CREEK
ELEVATION FREQUENCY RELATIONSHIP
CORPS OF ENGINEERS, U S ARMY
BUFFALO, NEW YORK, DISTRICT
PREPARED FOR
FEDERAL INSURANCE ADMINISTRATION
MAY 1971

EXHIBIT 19



NOTES:

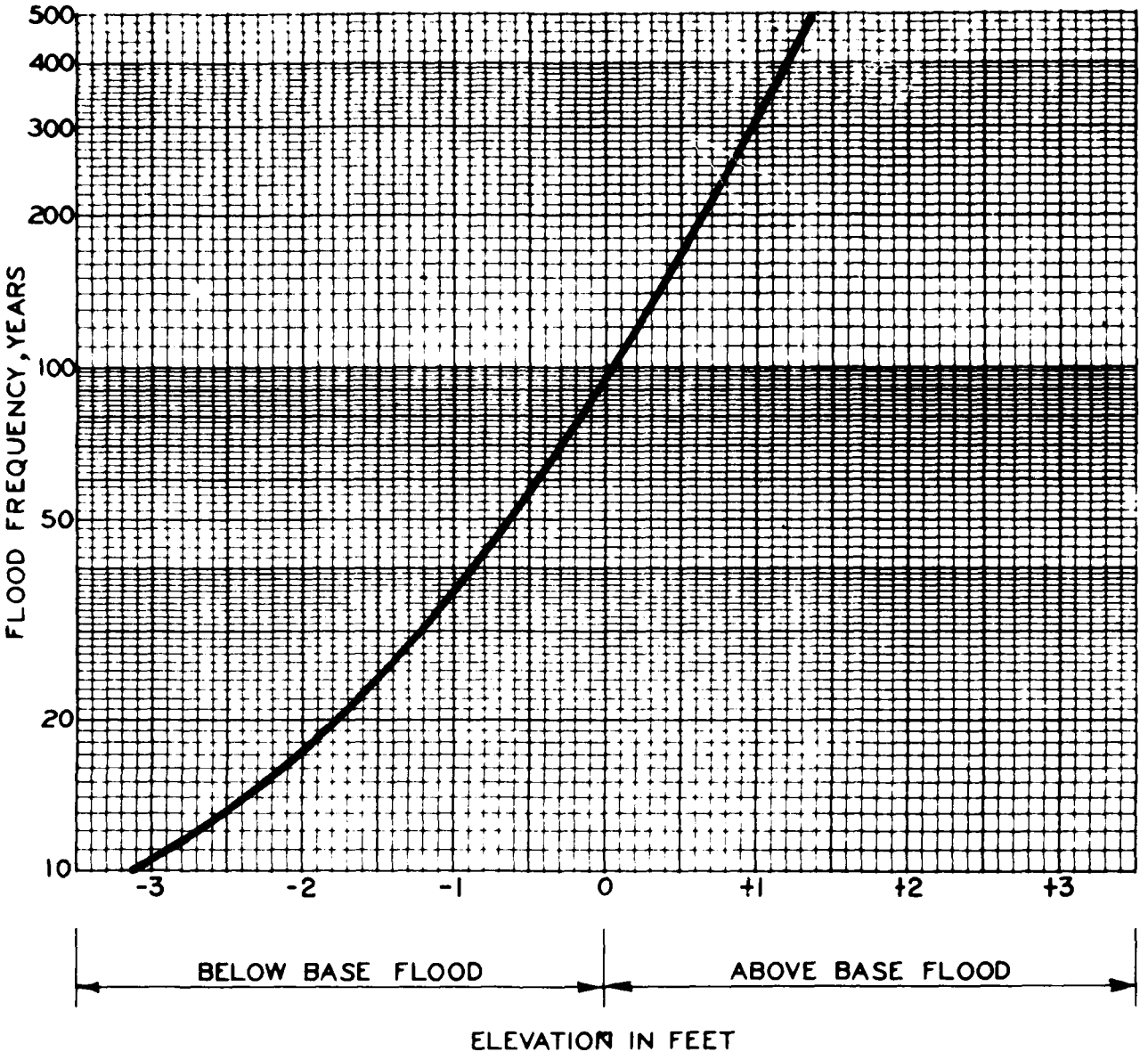
1 CURVE CORRESPONDS TO FLOOD HAZARD FACTOR NUMBER 0308

2 CURVE DEVELOPED FOR INDEX NUMBER 4 MILE 4.05

PLOTTING DATA	
FREQUENCY YEARS	FLOOD ELEVATION
SPF	
500	812.4
100	810.7
25	
10	807.5

FLOOD INSURANCE STUDY
GARFIELD HEIGHTS, OHIO
MILL CREEK
ELEVATION FREQUENCY RELATIONSHIP
CORPS OF ENGINEERS, U S ARMY
BUFFALO, NEW YORK, DISTRICT
PREPARED FOR
FEDERAL INSURANCE ADMINISTRATION
MAY 1971

EXHIBIT 20



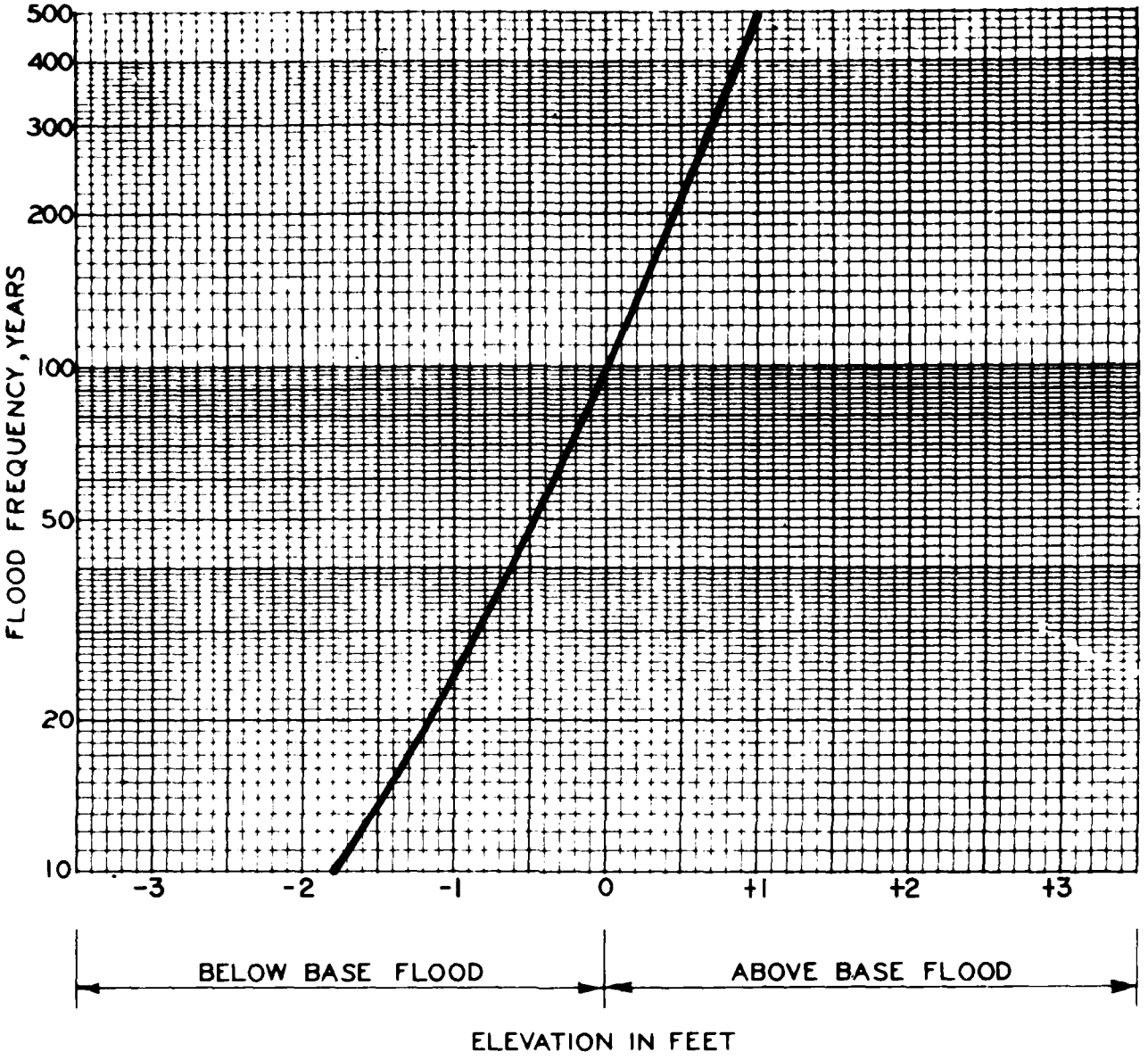
NOTES:

1. CURVE CORRESPONDS TO FLOOD HAZARD FACTOR NUMBER.030A
2. CURVE DEVELOPED FOR INDEX NUMBER.5-MILE 4.50

PLOTTING DATA	
FREQUENCY YEARS	FLOOD ELEVATION
SPF	
500	824.4
100	823.0
25	
10	819.8

FLOOD INSURANCE STUDY
GARFIELD HEIGHTS, OHIO
MILL CREEK
ELEVATION FREQUENCY RELATIONSHIP
CORPS OF ENGINEERS, U.S ARMY
BUFFALO, NEW YORK, DISTRICT
PREPARED FOR
FEDERAL INSURANCE ADMINISTRATION
MAY 1971

EXHIBIT 21



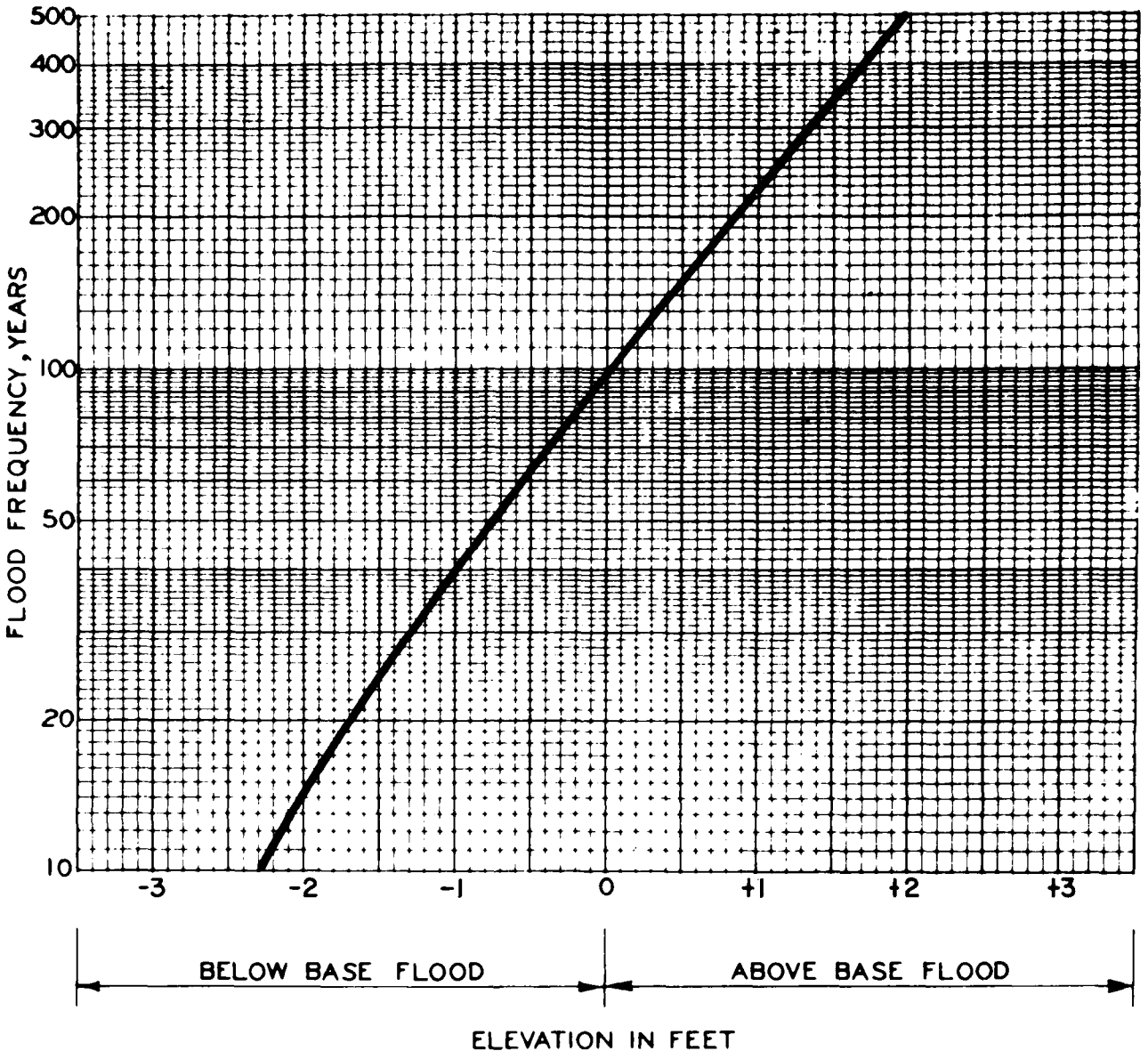
NOTES:

1. CURVE CORRESPONDS TO FLOOD HAZARD FACTOR NUMBER .020A
2. CURVE DEVELOPED FOR INDEX NUMBER .6-MILE 4.80

PLOTTING DATA	
FREQUENCY YEARS	FLOOD ELEVATION
SPF	
500	832.6
100	831.6
25	
10	829.8

FLOOD INSURANCE STUDY
GARFIELD HEIGHTS, OHIO
MILL CREEK
ELEVATION FREQUENCY RELATIONSHIP
CORPS OF ENGINEERS, U S ARMY
BUFFALO, NEW YORK, DISTRICT
PREPARED FOR
FEDERAL INSURANCE ADMINISTRATION
MAY 1971

EXHIBIT 22



NOTES:

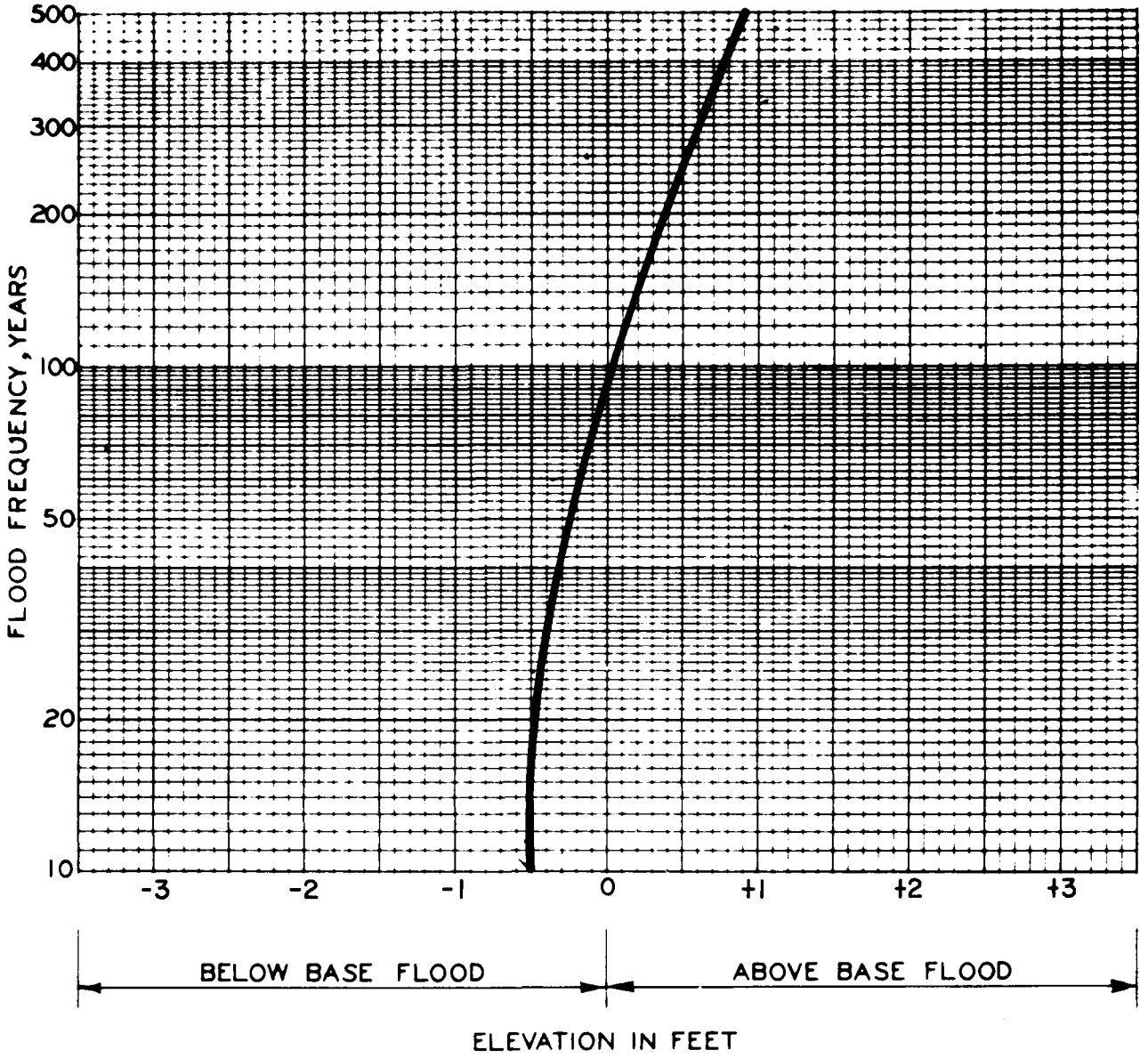
1 CURVE CORRESPONDS TO FLOOD HAZARD FACTOR NUMBER 025C

2 CURVE DEVELOPED FOR INDEX NUMBER 7-MILE 5.10

PLOTTING DATA	
FREQUENCY YEARS	FLOOD ELEVATION
SPF	
500	839.9
100	837.9
25	
10	835.6

FLOOD INSURANCE STUDY
GARFIELD HEIGHTS, OHIO
MILL CREEK
ELEVATION FREQUENCY RELATIONSHIP
CORPS OF ENGINEERS, U S ARMY
BUFFALO, NEW YORK, DISTRICT
PREPARED FOR
FEDERAL INSURANCE ADMINISTRATION
MAY 1971

EXHIBIT 23



NOTES:

1. CURVE CORRESPONDS TO FLOOD HAZARD FACTOR NUMBER.005D
2. CURVE DEVELOPED FOR INDEX NUMBER.1-400 FEET

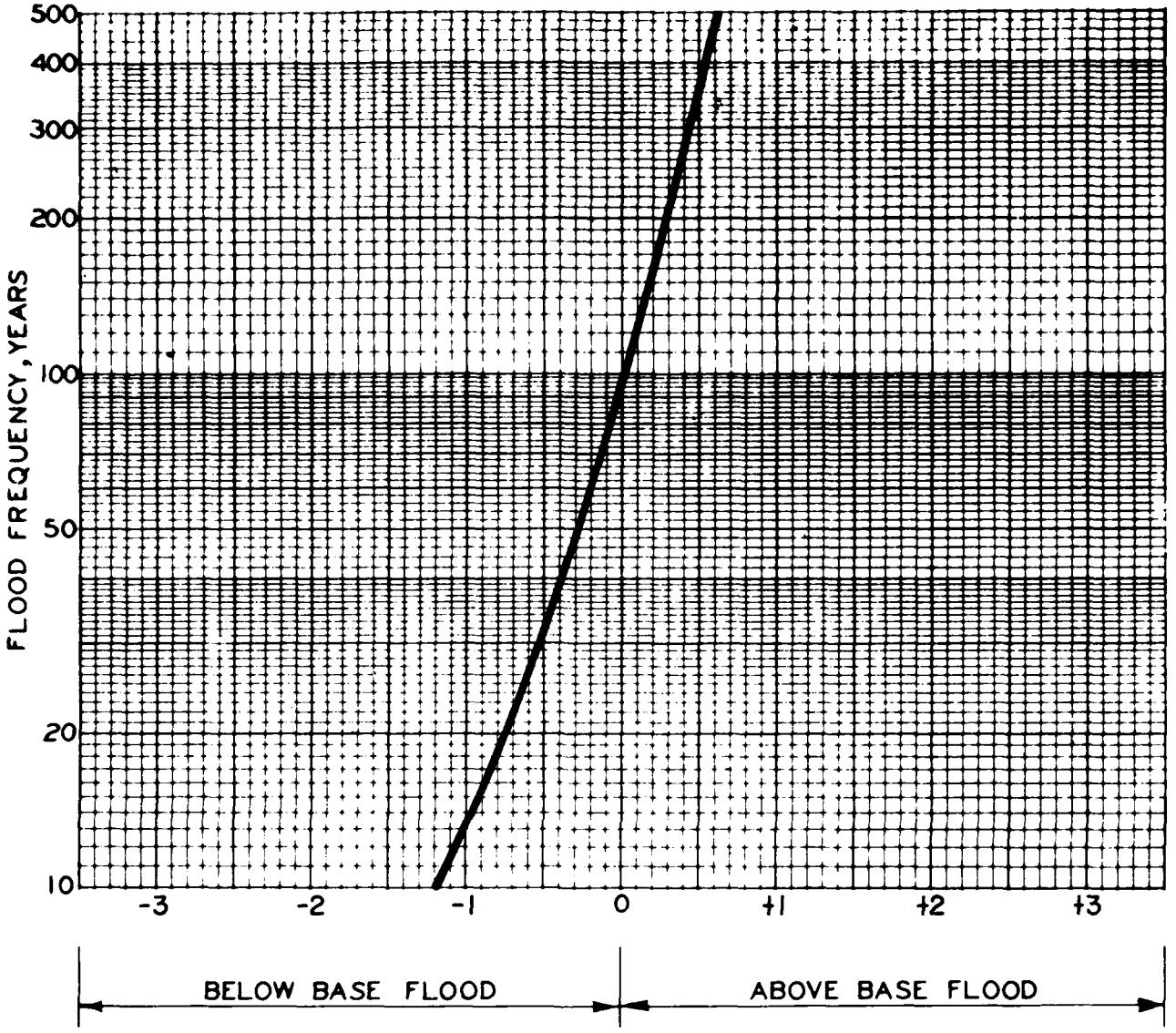
PLOTTING DATA	
FREQUENCY YEARS	FLOOD ELEVATION
SPF	
500	818.0
100	817.1
25	
10	816.6

FLOOD INSURANCE STUDY
GARFIELD HEIGHTS, OHIO
WOLF CREEK

ELEVATION FREQUENCY RELATIONSHIP

CORPS OF ENGINEERS, U.S. ARMY
BUFFALO, NEW YORK, DISTRICT
PREPARED FOR
FEDERAL INSURANCE ADMINISTRATION
MAY 1971

EXHIBIT 24



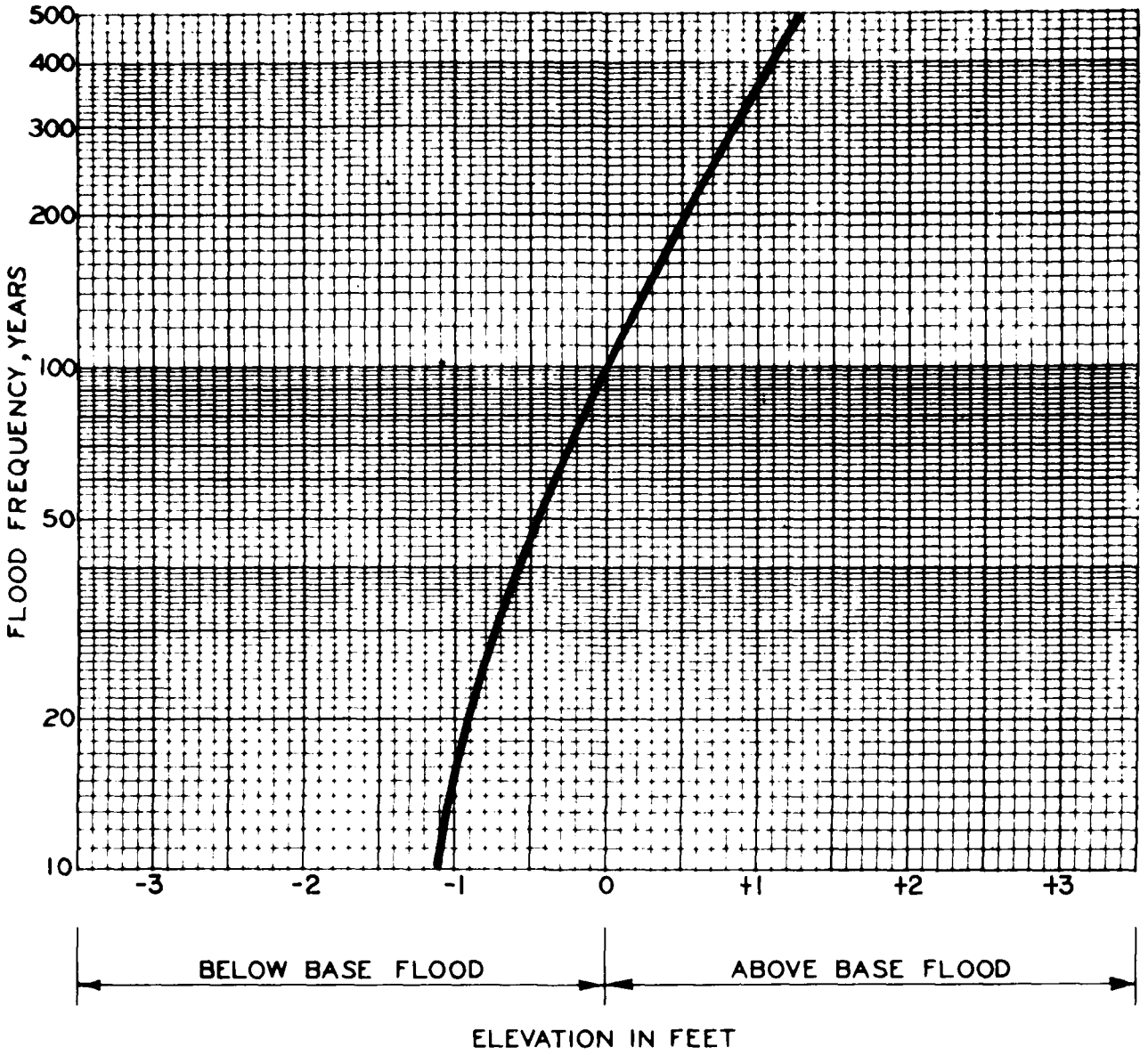
NOTES:

1. CURVE CORRESPONDS TO FLOOD HAZARD FACTOR NUMBER. 010B
2. CURVE DEVELOPED FOR INDEX NUMBER. 2-1400 FEET

PLOTTING DATA	
FREQUENCY YEARS	FLOOD ELEVATION
SPF	
500	830.1
100	829.5
25	
10	828.3

FLOOD INSURANCE STUDY
GARFIELD HEIGHTS, OHIO
WOLF CREEK
ELEVATION FREQUENCY RELATIONSHIP
CORPS OF ENGINEERS, U S ARMY
BUFFALO, NEW YORK, DISTRICT
PREPARED FOR
FEDERAL INSURANCE ADMINISTRATION
MAY 1971

EXHIBIT 25



NOTES:

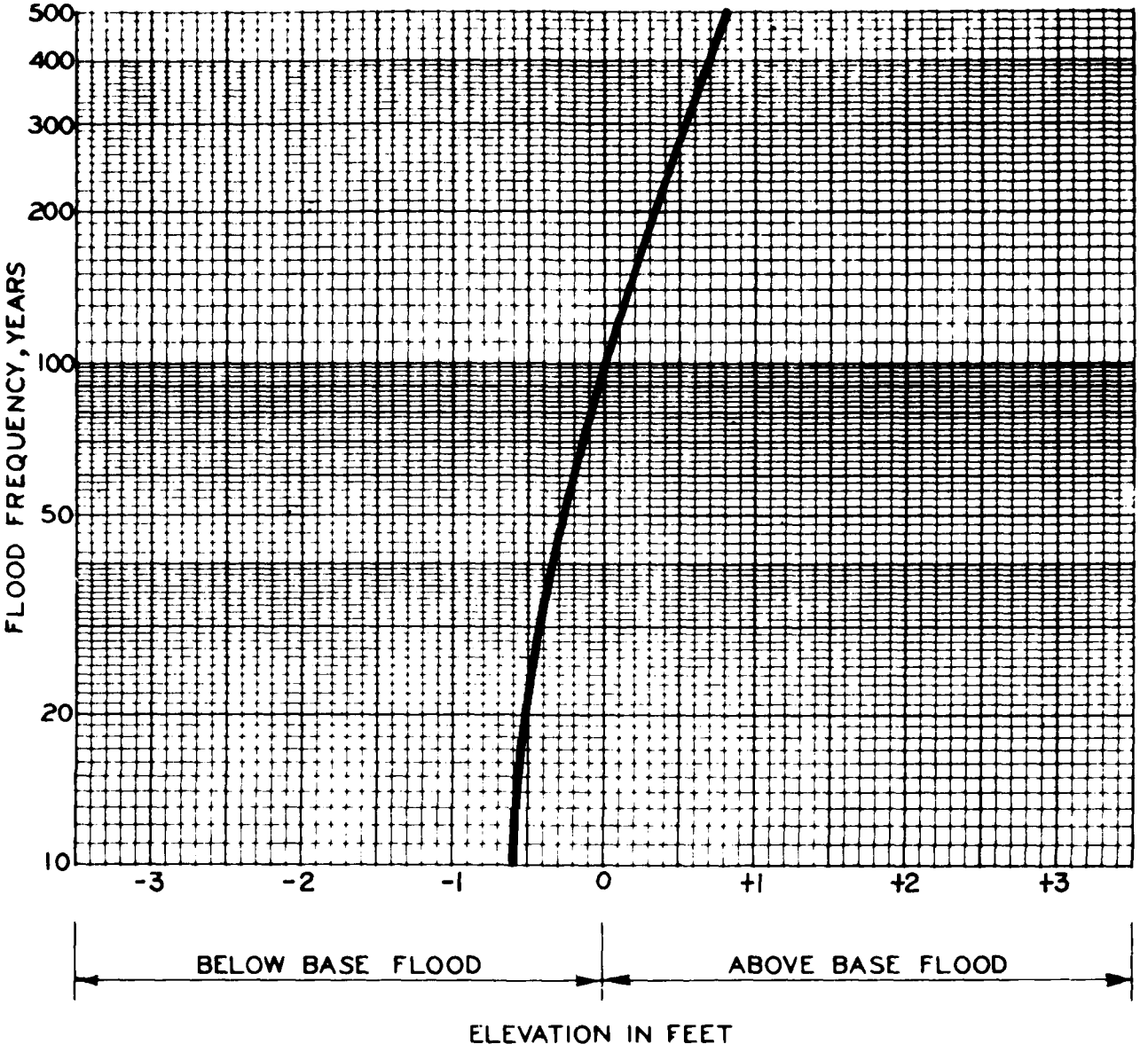
1 CURVE CORRESPONDS TO FLOOD HAZARD FACTOR NUMBER 0100

2 CURVE DEVELOPED FOR INDEX NUMBER 3-2800 FEET

PLOTTING DATA	
FREQUENCY YEARS	FLOOD ELEVATION
SPF	
500	851.8
100	850.5
25	
10	849.4

FLOOD INSURANCE STUDY
GARFIELD HEIGHTS, OHIO
WOLF CREEK
ELEVATION FREQUENCY RELATIONSHIP
CORPS OF ENGINEERS, U S ARMY
BUFFALO, NEW YORK, DISTRICT
PREPARED FOR
FEDERAL INSURANCE ADMINISTRATION
MAY 1971

EXHIBIT 26



NOTES:

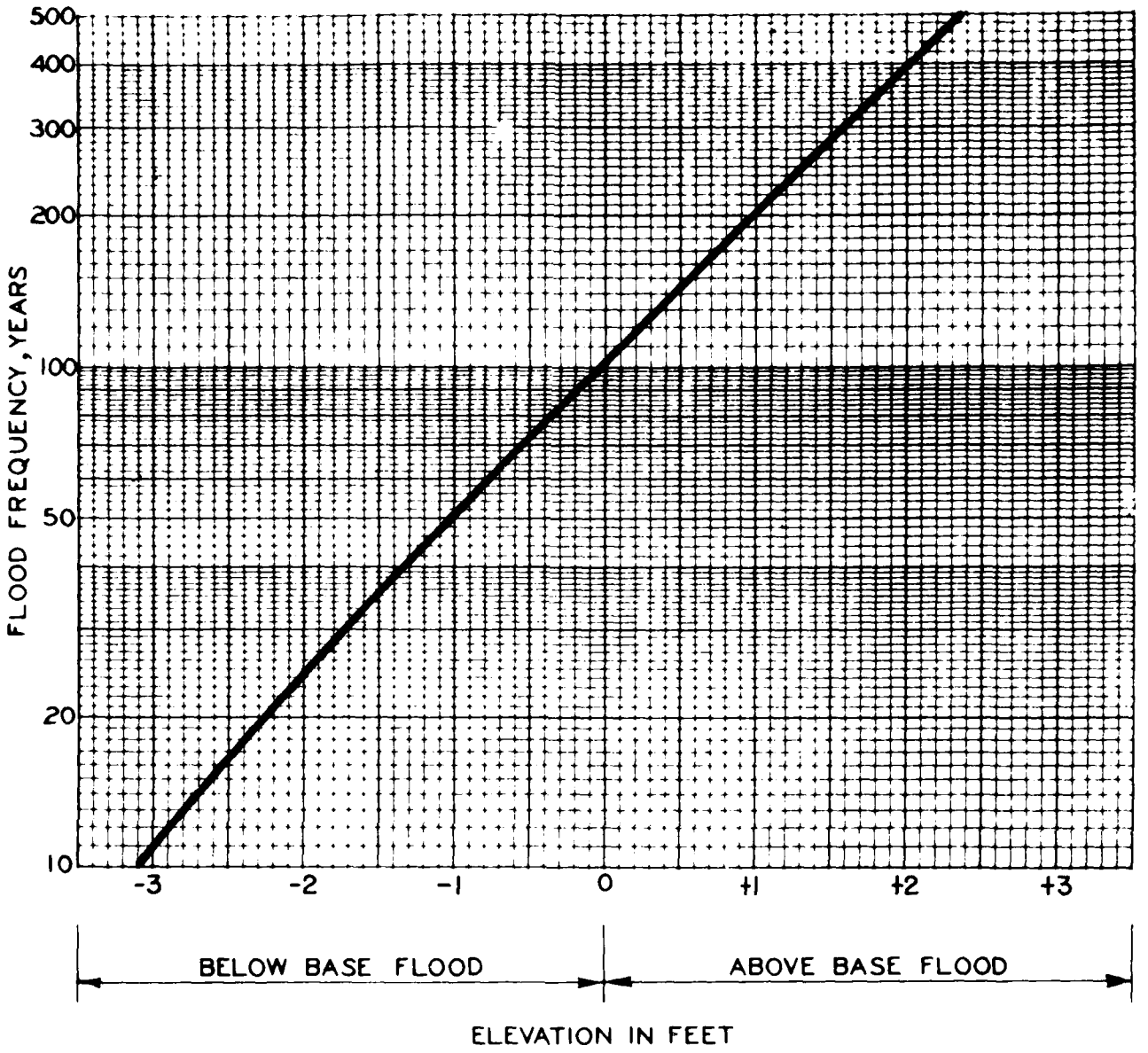
1 CURVE CORRESPONDS TO FLOOD HAZARD FACTOR NUMBER.005D

2 CURVE DEVELOPED FOR INDEX NUMBER 4-3800 FEET

PLOTTING DATA	
FREQUENCY YEARS	FLOOD ELEVATION
SPF	
500	863.0
100	861.2
25	
10	859.6

FLOOD INSURANCE STUDY
GARFIELD HEIGHTS, OHIO
WOLF CREEK
ELEVATION FREQUENCY RELATIONSHIP
CORPS OF ENGINEERS, U.S. ARMY
BUFFALO, NEW YORK, DISTRICT
PREPARED FOR
FEDERAL INSURANCE ADMINISTRATION
MAY 1971

EXHIBIT 27



NOTES:

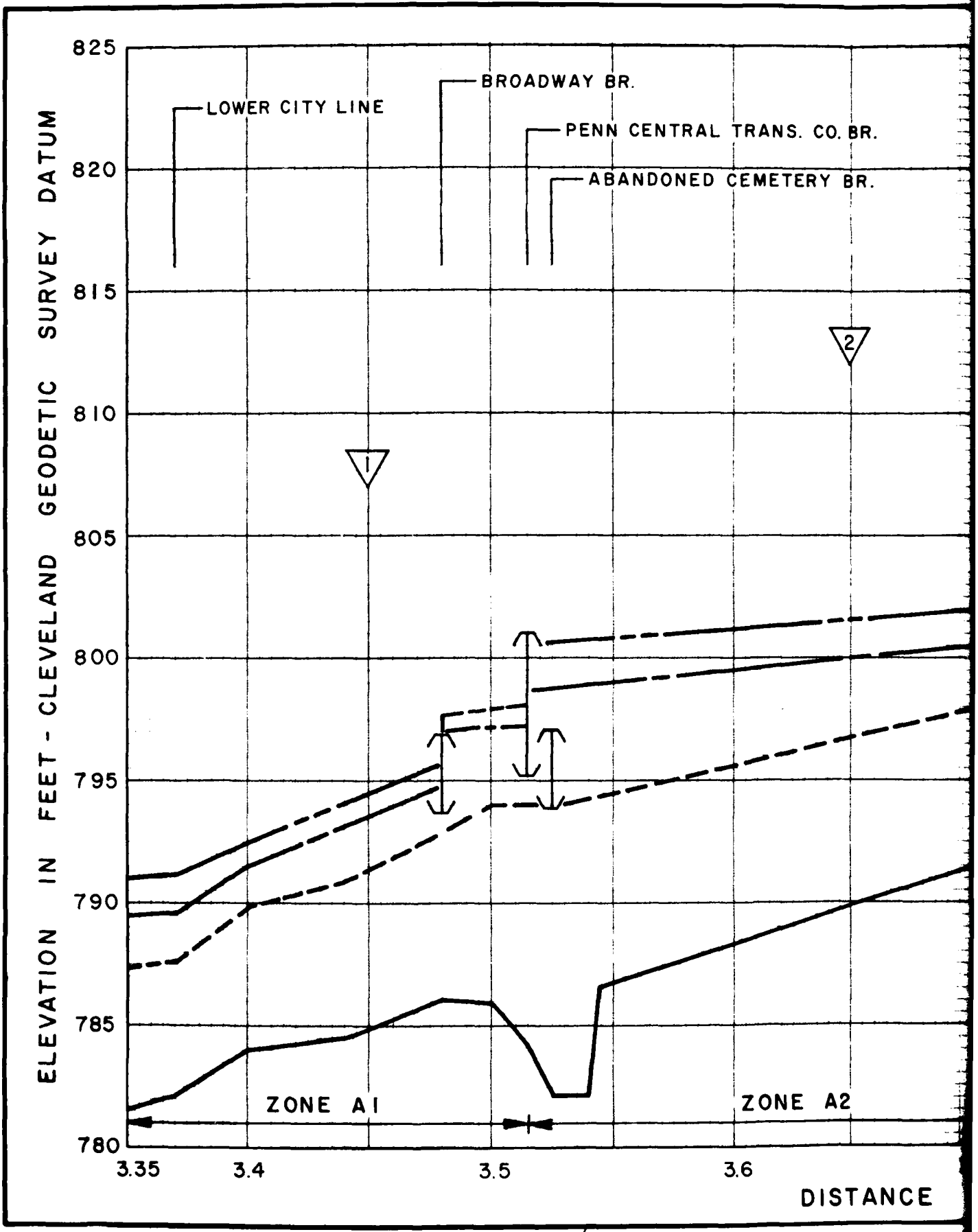
1 CURVE CORRESPONDS TO FLOOD HAZARD FACTOR NUMBER 030C

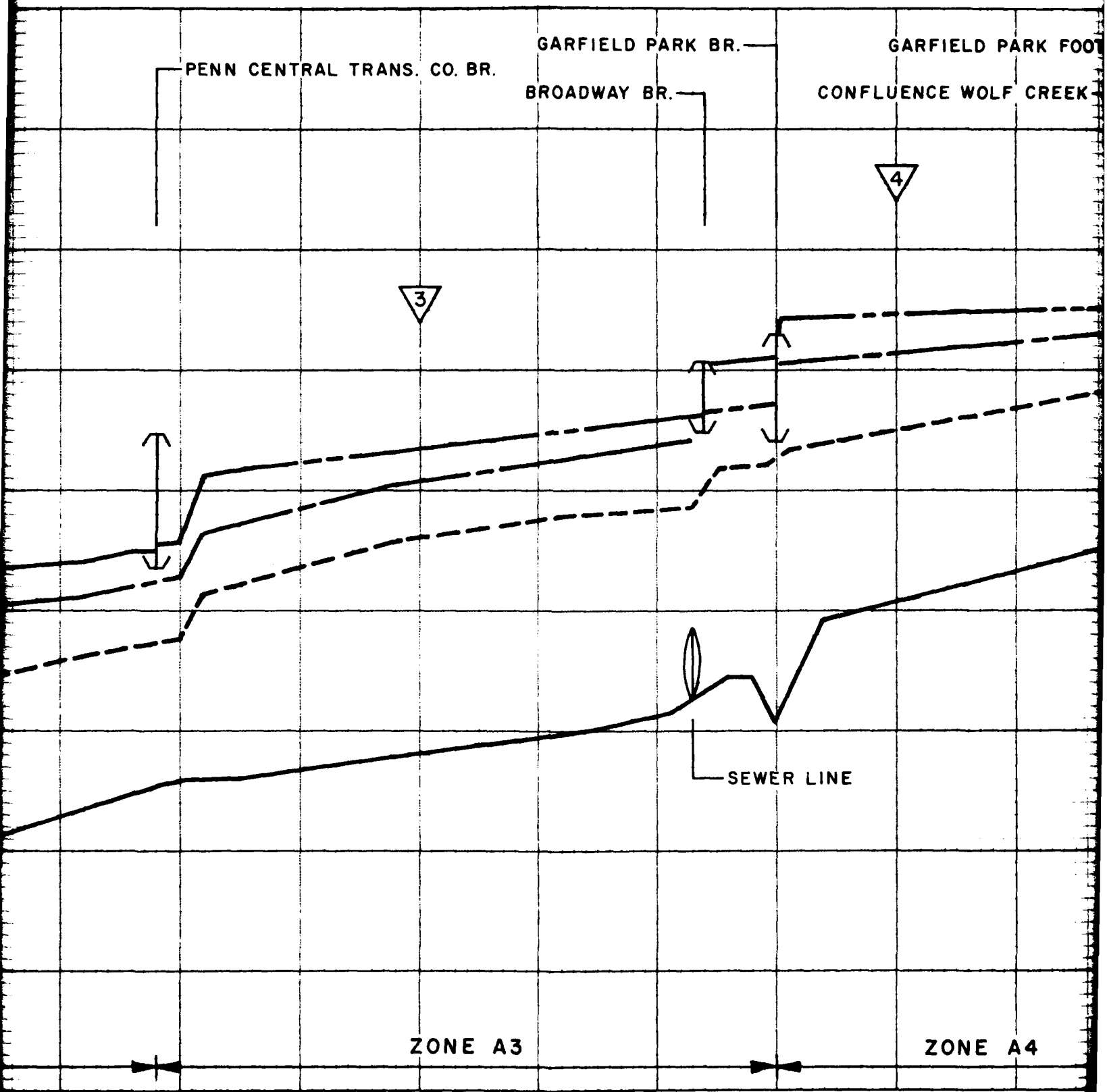
2 CURVE DEVELOPED FOR INDEX NUMBER 5-4600 FEET

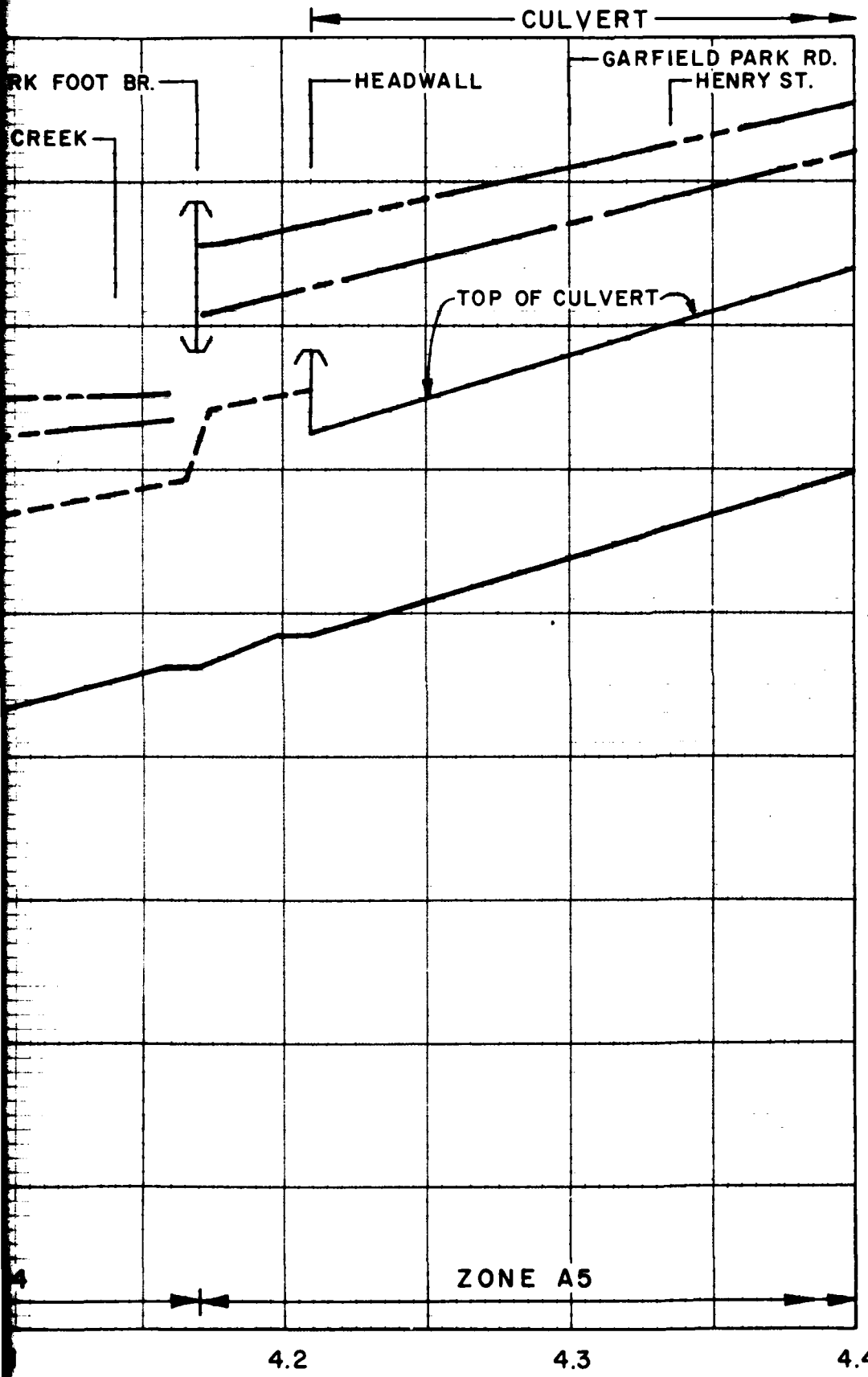
PLOTTING DATA	
FREQUENCY YEARS	FLOOD ELEVATION
SPF	
500	871.2
100	868.8
25	
10	865.7

FLOOD INSURANCE STUDY
GARFIELD HEIGHTS, OHIO
WOLF CREEK
ELEVATION FREQUENCY RELATIONSHIP
CORPS OF ENGINEERS, U S ARMY
BUFFALO, NEW YORK, DISTRICT
PREPARED FOR
FEDERAL INSURANCE ADMINISTRATION
MAY 1971

EXHIBIT 28


825
820
815
810
805
800
795
790
785
780
ELEVATION IN FEET - CLEVELAND GEODETIC SURVEY DATUM
LOWER CITY LINE
BROADWAY BR.
PENN CENTRAL TRANS. CO. BR.
ABANDONED CEMETERY BR.
1
2
ZONE A1
ZONE A2
3.35
3.4
3.5
3.6
DISTANCE


PENN CENTRAL TRANS. CO. BR.
GARFIELD PARK BR.
BROADWAY BR.
GARFIELD PARK FOOT
CONFLUENCE WOLF CREEK
3
4
SEWER LINE
ZONE A3
ZONE A4
3.7
3.8
3.9
4.0
4.1
E ALONG MILL CREEK FROM MOUTH IN MILES



LEGEND:

- 500 YEAR FLOOD
- 100 YEAR FLOOD
- 10 YEAR FLOOD
- APPROXIMATE STRE
- APPROXIMATE FLOO
- APPROXIMATE LOW S
- INDEX POINT

NOTES:

CREST PROFILES ARE BASE
FOLLOWING:

1. EXISTING CHANNEL CON
2. EXISTING STRUCTURES
3. EXISTING CONDITIONS

LARGE SCALE FILLING WIL
UNLESS SUFFICIENT FLOODWAY

FLOOD INSU
GARFIELD H
MILL
PRO
U.S. ARMY ENGINEE
MAY

LOOD

OOD

OD

E STREAM BED

E FLOOR ELEVATION

E LOW STEEL ELEVATION

T

RE BASED ON THE

NEL CONDITIONS

CTURES

ITIONS OF DEVELOPMENT.

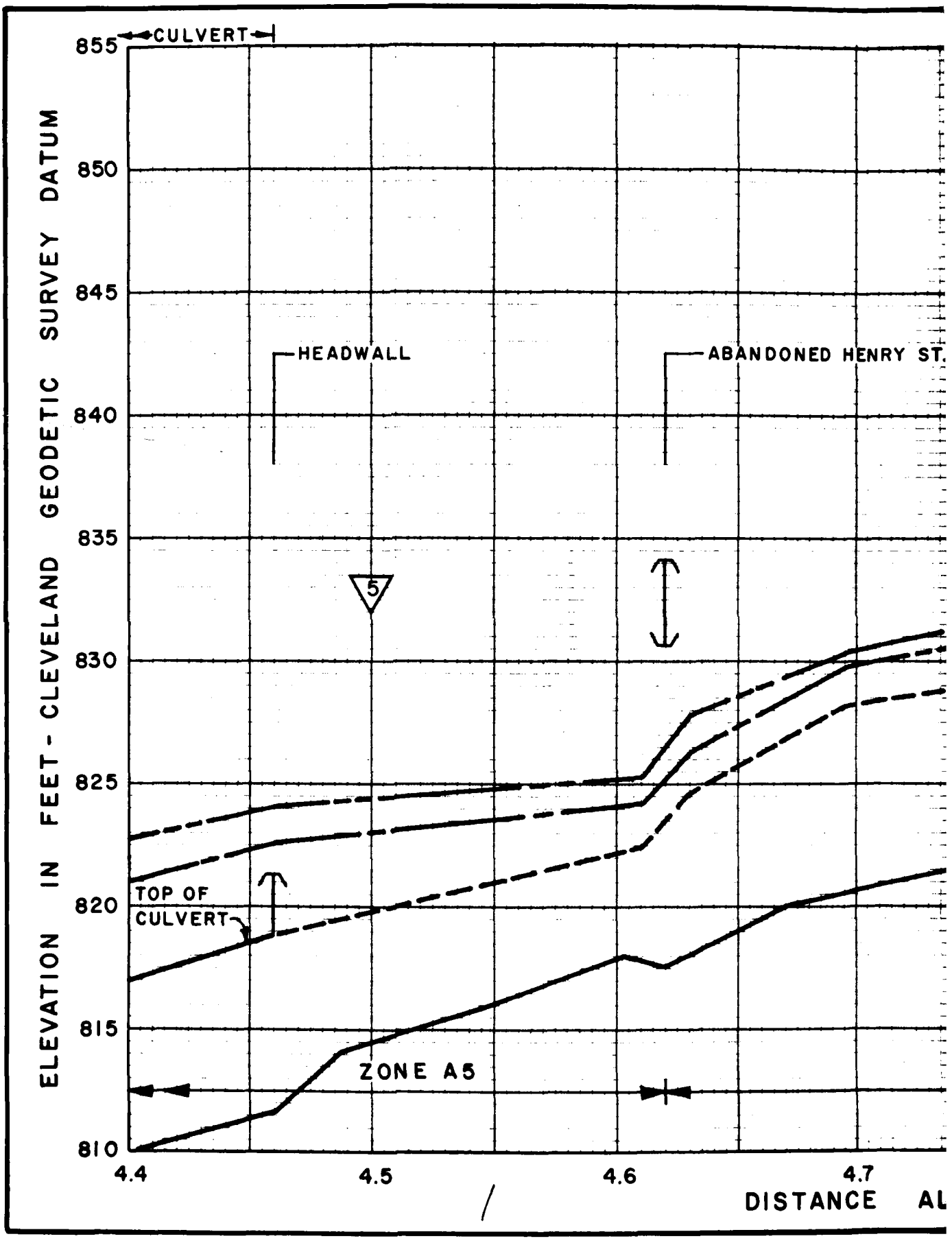
NG WILL RAISE PROFILES
OODWAY IS PROVIDED.

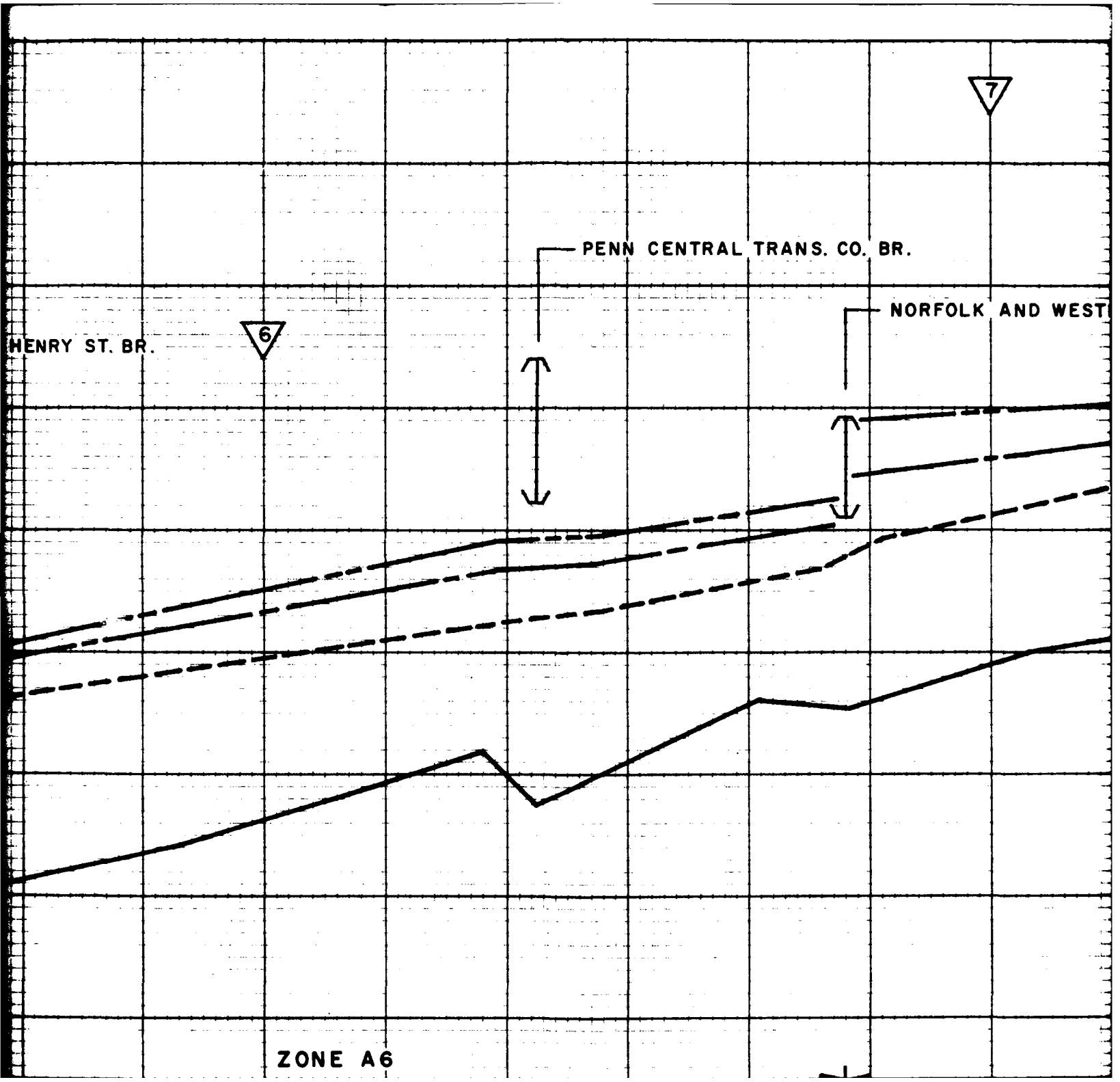
D INSURANCE STUDY
IELD HEIGHTS, OHIO
MILL CREEK

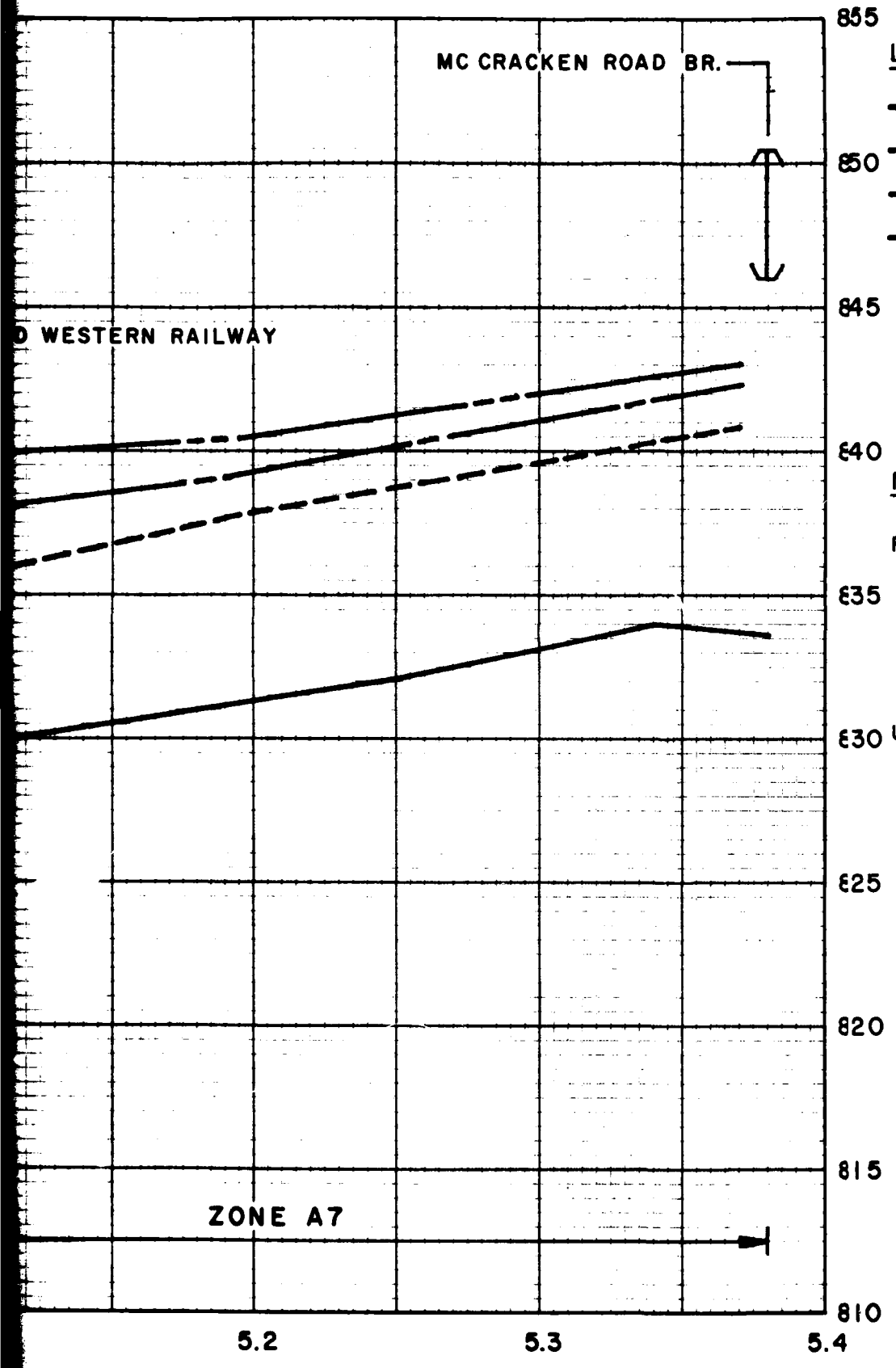
PROFILES

ENGINEER DISTRICT, BUFFALO
MAY 1971

1 4 PLATE 1


CULVERT
855
850
845
840
835
830
825
820
815
810
ELEVATION IN FEET - CLEVELAND GEODETIC SURVEY DATUM
HEADWALL
ABANDONED HENRY ST.
5
TOP OF CULVERT
ZONE A5
4.4
4.5
4.6
4.7
DISTANCE AL


7
PENN CENTRAL TRANS. CO. BR.
NORFOLK AND WEST
HENRY ST. BR.
6
ZONE A6



LEGEND:

500 YEAR FLOOD

100 YEAR FLOOD

10 YEAR FLOOD

APPROXIMATE STREAM

APPROXIMATE FLOOR E

APPROXIMATE LOW STE

7 INDEX POINT

NOTES:

CREST PROFILES ARE BASED

FOLLOWING:

1. EXISTING CHANNEL CONDI
2. EXISTING STRUCTURES
3. EXISTING CONDITIONS OF

LARGE SCALE FILLING WILL

UNLESS SUFFICIENT FLOODWAY I

FLOOD INSURA

GARFIELD HE

MILL C

PROFI

U.S. ARMY ENGINEER

MAY 1

)D

)D

TREAM BED

FLOOR ELEVATION

OW STEEL ELEVATION

BASED ON THE

L CONDITIONS

URES

ONS OF DEVELOPMENT

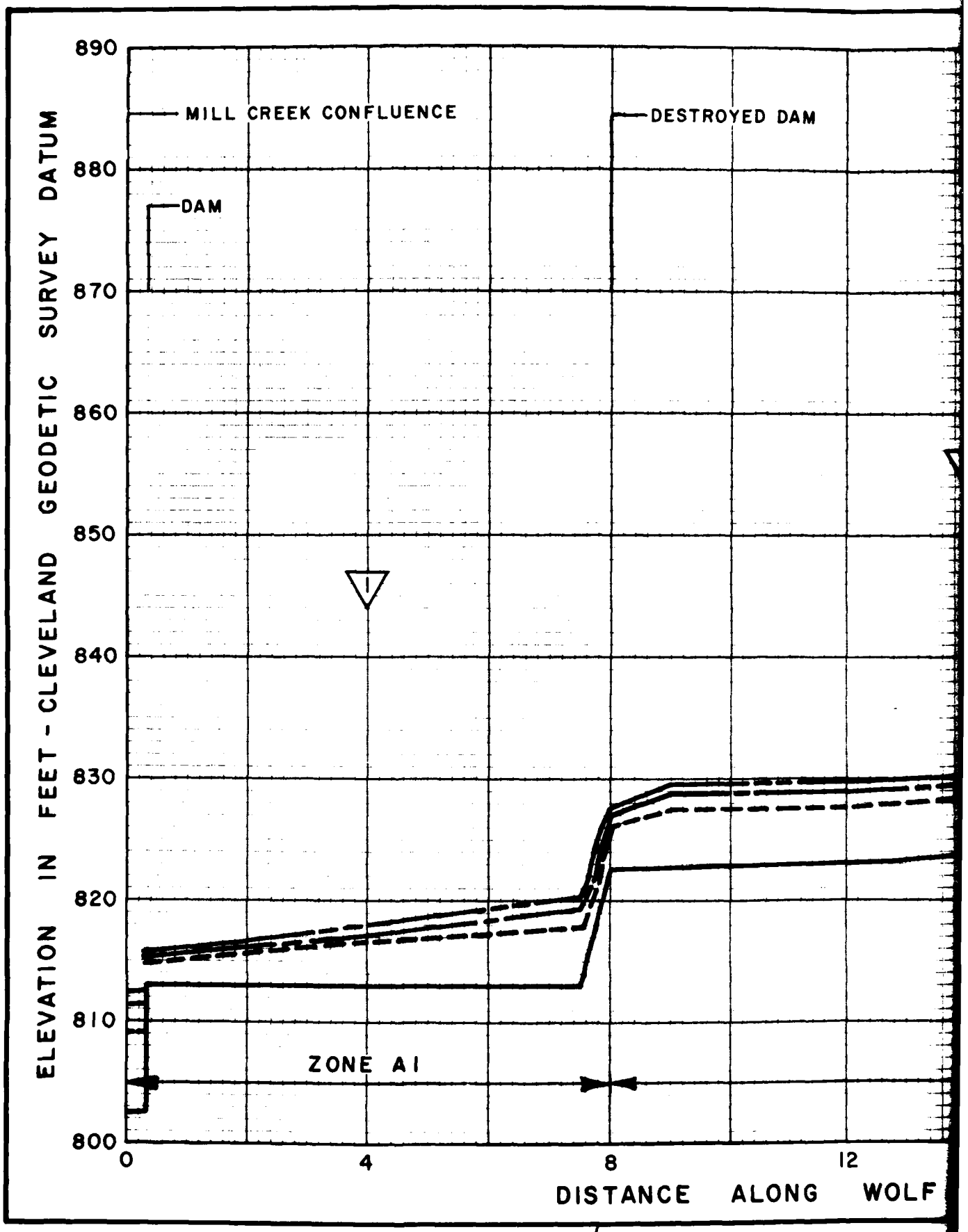
WILL RAISE PROFILES
DWAY IS PROVIDED.

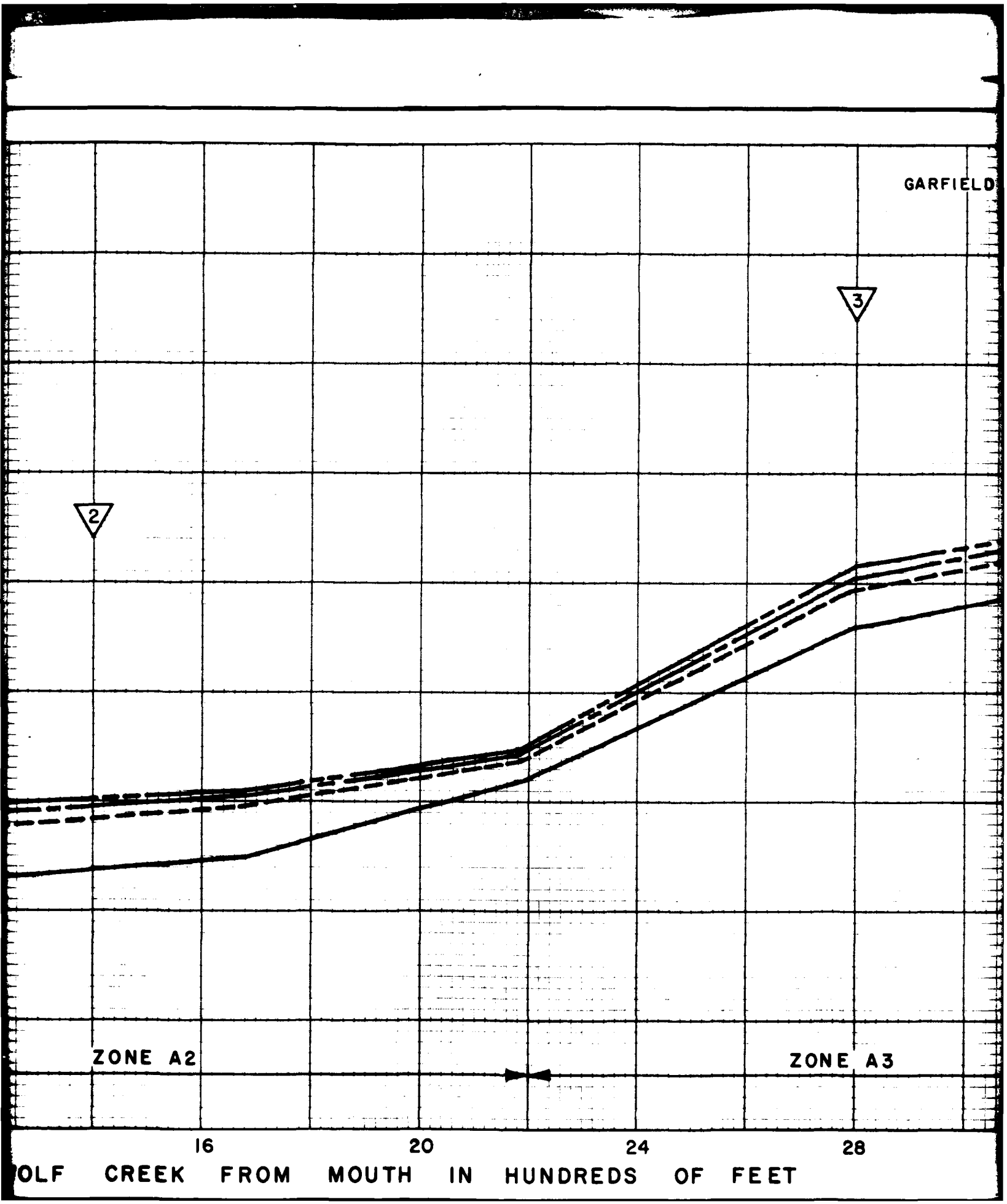
NSURANCE STUDY
D HEIGHTS,OHIO
ILL CREEK

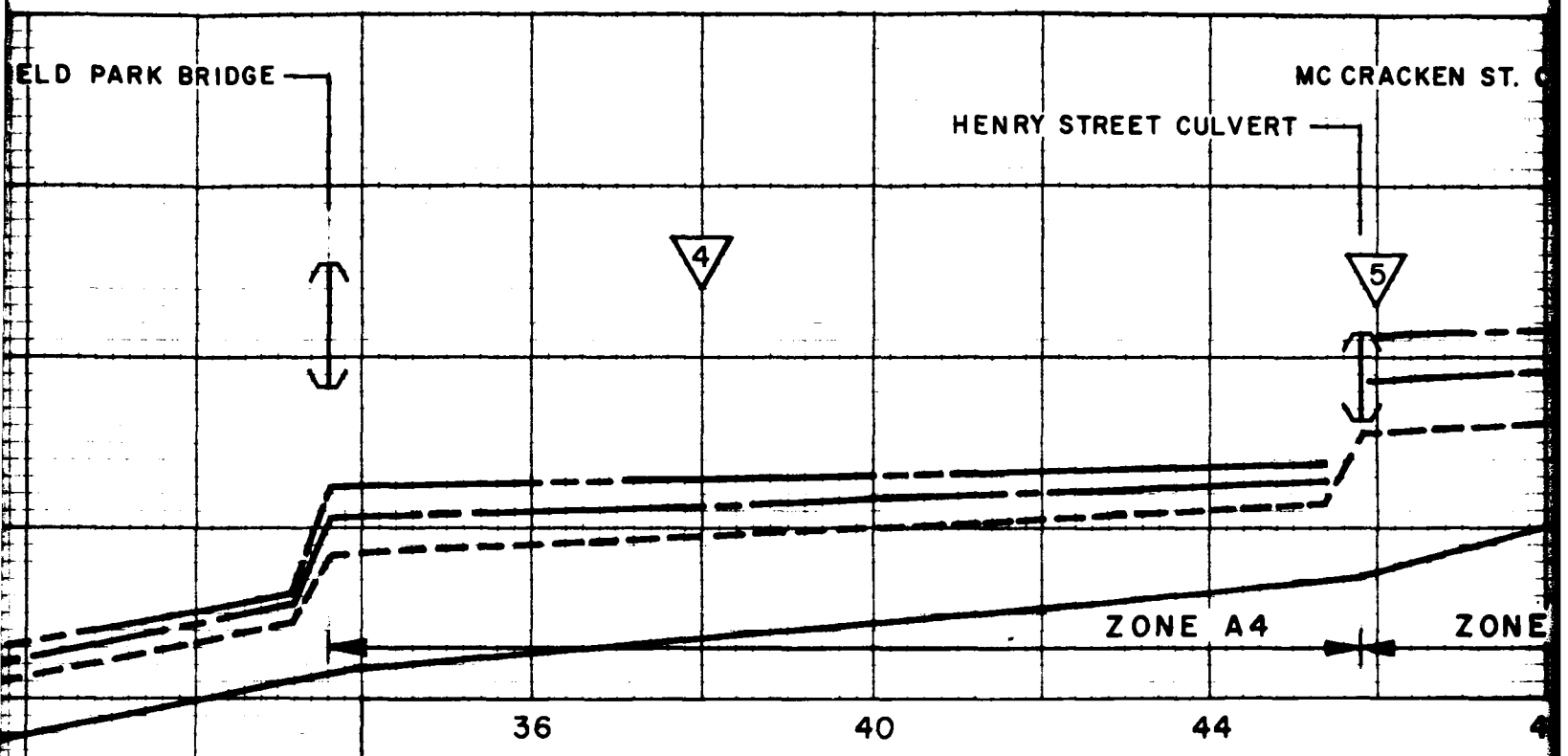
ROFILES

NEER DISTRICT,BUFFALO
MAY 1971

1 4 PLATE 2


890
880
870
860
850
840
830
820
810
800
ELEVATION IN FEET - CLEVELAND GEODETIC SURVEY DATUM
MILL CREEK CONFLUENCE
DESTROYED DAM
DAM
ZONE A1
0
4
8
12
DISTANCE ALONG WOLF


GARFIELD
3
2
ZONE A2
ZONE A3
16
20
24
28
OLF CREEK FROM MOUTH IN HUNDREDS OF FEET



840
830
820
810
800
32

LEGEND:

- 500 YEAR FLOOD
- 100 YEAR FLOOD
- 10 YEAR FLOOD
- APPROXIMATE STREAM BED
- APPROXIMATE FLOOR ELEVATION
- APPROXIMATE LOW STEEL ELEVATION
- 2 INDEX POINT

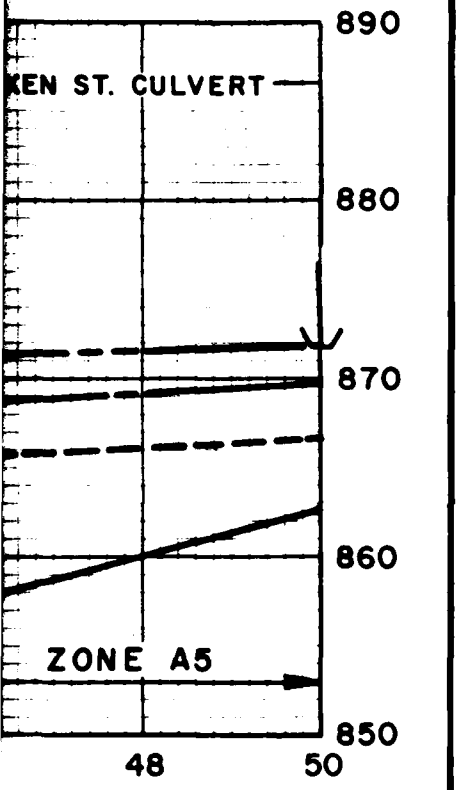
NOTES:

CREST PROFILES ARE BASED ON THE FOLLOWING:

1. EXISTING CHANNEL CONDITIONS
2. EXISTING STRUCTURES
3. EXISTING CONDITIONS OF DEVELOPMENT.

LARGE SCALE FILLING WILL RAISE PROFILES UNLESS SUFFICIENT FLOODWAY IS PROVIDED.

FLOOD IN
GARFIELD
WO
PR
U.S. ARMY ENGI

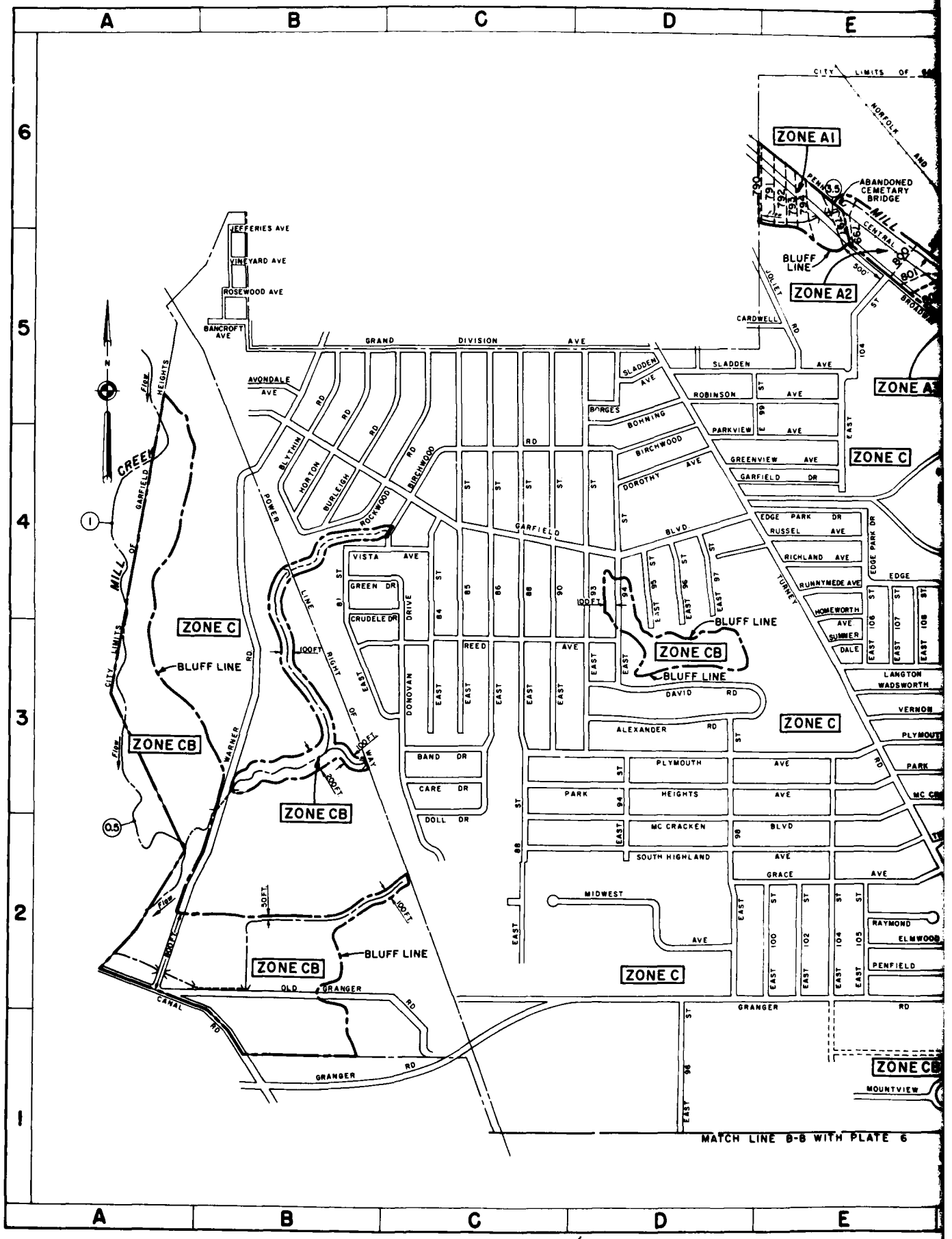


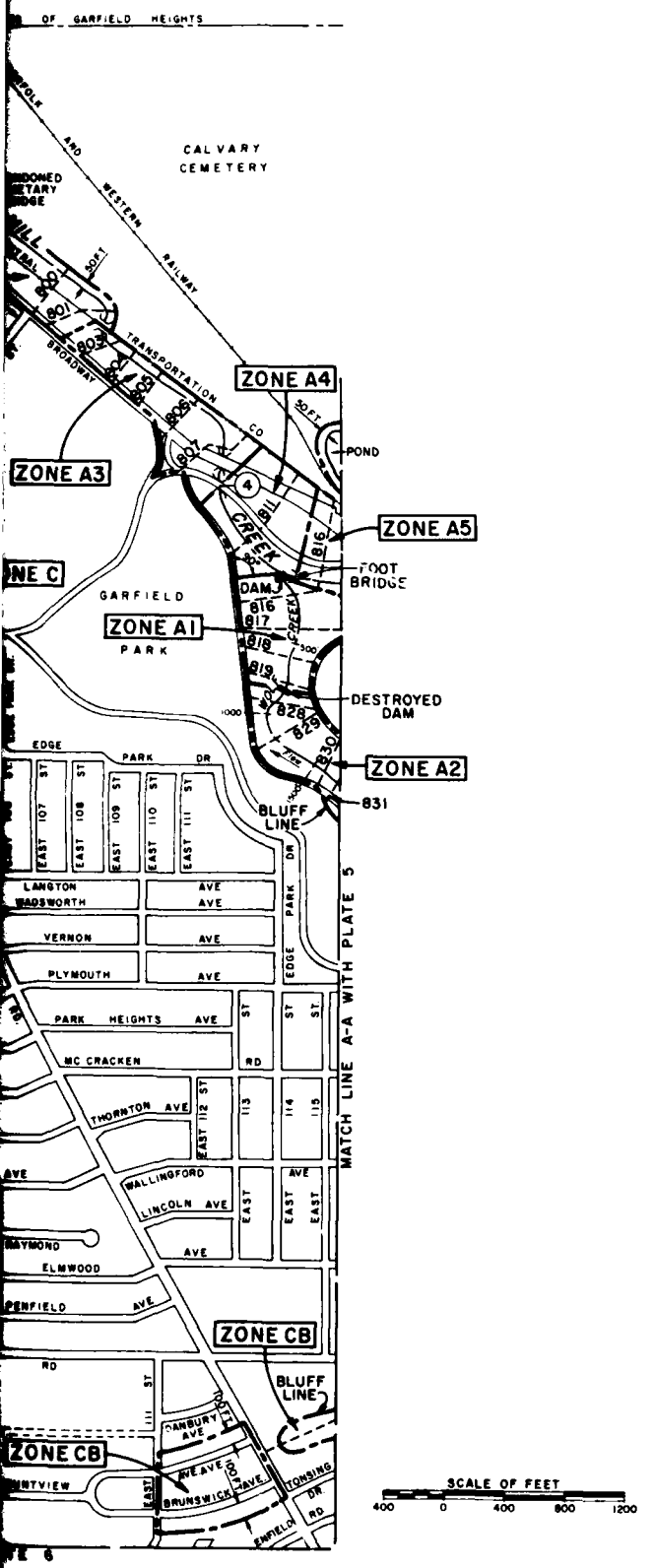
LOOD INSURANCE STUDY
ARFIELD HEIGHTS, OHIO
WOLF CREEK

PROFILES

RMY ENGINEER DISTRICT, BUFFALO
MAY 1971

PLATE 3


A
B
C
D
E
6
5
4
3
2
1
ZONE A1
ZONE A2
ZONE C
ZONE CB
BLUFF LINE
ABANDONED CEMETARY BRIDGE
MILL
CENTRAL
JOLIET
CARDWELL RD
GRAND
DIVISION
AVE
SLADDEN AVE
ROBINSON AVE
BORGES
BOHNING
PARKVIEW AVE
BIRCHWOOD
GREENVIEW AVE
DOROTHY AVE
GARFIELD DR
GARFIELD BLVD
EDGE PARK DR
RUSSEL AVE
RICHLAND AVE
RUNNYMEDE AVE
HOMEWORTH AVE
SUMMER
DALE
LANGTON
WADSWORTH
VERNON
PLYMOUTH
PARK HEIGHTS AVE
MC CRACKEN BLVD
SOUTH HIGHLAND AVE
GRACE AVE
MIDWEST AVE
RAYMOND
ELMWOOD
PENFIELD
MOUNTVIEW
DAVID RD
ALEXANDER RD
REED AVE
DONOVAN DRIVE
BAND DR
CARE DR
DOLL DR
CRUDELE DR
GREEN DR
VISTA AVE
AVONDALE AVE
BLYTHIN RD
HORTON RD
BURLEIGH RD
ROCKWOOD RD
BIRCHWOOD RD
JEFFERIES AVE
VINEYARD AVE
ROSEWOOD AVE
BANCROFT AVE
POWER LINE
EAST RIGHT OF WAY
100FT
30FT
WARNER RD
OLD GRANGER RD
CANAL RD
GRANGER RD
CITY LIMITS
GREEN MILL
HEIGHTS
FIRE
MATCH LINE B-B WITH PLATE 6



STREET INDEX

ALEXANDER RD	D3
AVONDALE AVE	B5
BANCROFT AVE	B5
BANC DR	C3
BIRCHWOOD RD	C4,D4
BLYNTWIN RD	B4
BOWMING RD	D5
BORGES	D5
BROADWAY	E5
BRUNSWICK AVE	F1
BURLEIGH RD	B4
CANAL RD	A2
CARDWELL	E5
CARE DR	C3
CRUDELE DR	B4
DANBURY AVE	F1
DAVID RD	D3
DELL DR	C2
DONOVAN DR	C3,C4
DOROTHY AVE	D4
EAST 81 ST	B3,B4
EAST 84 ST	C3,C4
EAST 85 ST	C3,C4
EAST 86 ST	C3,C4
EAST 88 ST	C2,C3,C4
EAST 90 ST	C3,C4
EAST 93 ST	D3,D4
EAST 94 ST	D3,D4,D5,D2
EAST 95 ST	D3,D4
EAST 96 ST	D3,D4,D1
EAST 97 ST	D4
EAST 98 ST	D2
EAST 100 ST	E2
EAST 102 ST	E2
EAST 104 ST	E2,E5
EAST 105 ST	E2
EAST 106 ST	E3,F3
EAST 107 ST	E3,E4
EAST 108 ST	E3,E4
EAST 109 ST	F3,F4
EAST 110 ST	F3,F4
EAST 111 ST	F1,F3,F4
EAST 112 ST	F2
EAST 113 ST	F2
EAST 114 ST	F2
EAST 115 ST	F2
EDGE PARK DR	E4,F4,F3
ELMWOOD	E2
ENFIELD	F1
GARFIELD BLVD	C4,D4,E4
GRAND DIVISION AVE	B5,C5
GRANGER RD	B1
GREEN DR	B4
GREENVIEW AVE	D4,E4
HOMEWORTH AVE	E4
HORTON RD	B4
JEFFERIES AVE	B5
JOLIET RD	E5
LANGTON AVE	E3,F3
LINCOLN AVE	F2
MC CRACKEN BLVD	D2,E3,F3
MIDWEST AVE	D2
MOUNTVIEW AVE	E1
OLD GRANGER RD	B2,D1,E1
PARK HEIGHTS AVE	D2,E3,F3
PARK VIEW AVE	D4
PENFIELD AVE	E2
PLYMOUTH AVE	D3,E3,F3
RAYMOND	E1
REED AVE	C3
ROBINSON AVE	D5
RICHLAND AVE	E4
ROCKWOOD RD	B4
ROSEWOOD AVE	B5
RUNNYMEDE	E4
RUSSEL AVE	E4
SLADDEN AVE	D5
SOUTH HIGHLAND	D2
SUMMERDALE	E3
THORTON AVE	F2
TONSING DR	F1
TURNEY RD	E4
VERNON AVE	E3,F3
VINEYARD AVE	B5
VISTA AVE	B4
WADSWORTH AVE	E3,F3
WALLINGFORD AVE	F2
WARNER RD	B2

LEGEND:

- LIMITS OF ZONES
- GARFIELD HEIGHTS CITY LIMITS
- 805 — 100-YEAR FLOOD ELEVATION REFERENCE LINE
- (4) DISTANCE FROM MOUTH IN MILES
- 1000' DISTANCE FROM MOUTH IN FEET

NOTE:

FLOOD INSURANCE STUDY MAP WAS PREPARED FOR THE FEDERAL INSURANCE ADMINISTRATION.

FLOOD INSURANCE STUDY

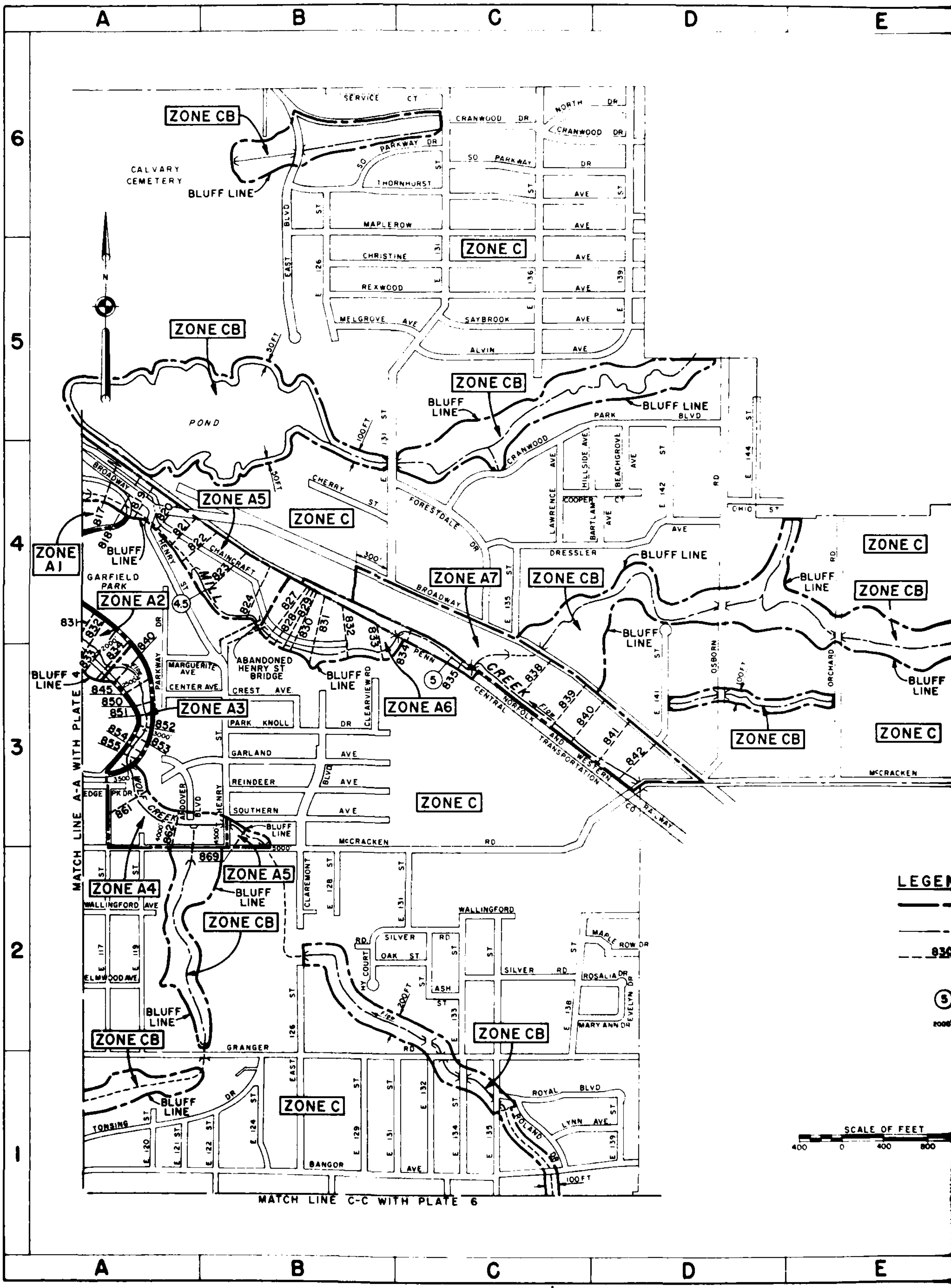
GARFIELD HEIGHTS, OHIO

FLOOD INSURANCE STUDY MAP

U.S. ARMY ENGINEER DISTRICT, BUFFALO

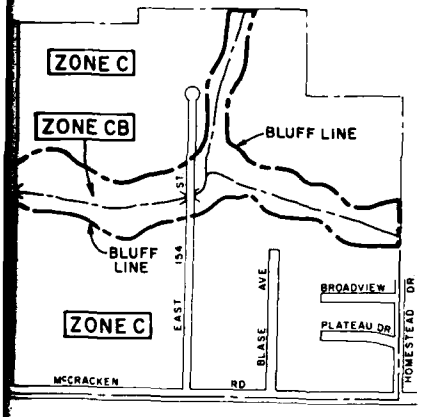
MAY 1971

PLATE 4



A
B
C
D
E
6
5
4
3
2
1
ZONE CB
ZONE C
ZONE A1
ZONE A2
ZONE A3
ZONE A4
ZONE A5
ZONE A6
ZONE A7
BLUFF LINE
CALVARY CEMETERY
POND
GARFIELD PARK
ABANDONED HENRY ST BRIDGE
MILL CREEK
NORFOLK AND WESTERN
CENTRAL TRANSPORTATION CO RAILWAY
SERVICE CT
CRANWOOD DR
NORTH DR
SO PARKWAY DR
THORNHURST
MAPLEROW AVE
CHRISTINE AVE
REXWOOD AVE
MELGROVE AVE
SAYBROOK AVE
ALVIN AVE
EAST BLVD
PARK BLVD
CRANWOOD
LAWRENCE AVE
HILLSIDE AVE
BEACHGROVE AVE
COOPER CT
BARTLAM AVE
DRESSLER
OHIO ST
CHERRY ST
FORESTDALE DR
BROADWAY
CHAINCRAFT
HENRY ST
PENN
PARKWAY DR
MARGUERITE AVE
CENTER AVE
CREST AVE
CLEARVIEW RD
PARK KNOLL DR
GARLAND AVE
REINDEER AVE
SOUTHERN AVE
McCRACKEN RD
ANDOVER BLVD
EDGE PK DR
WALLINGFORD AVE
ELMWOOD AVE
CLAREMONT
SILVER RD
OAK ST
IVY COURT
ASH ST
WALLINGFORD
MAPLE ROW DR
ROSALIA DR
EVELYN DR
MARY ANN DR
GRANGER RD
TONSING ST
ROYAL BLVD
ROLAND
LYNN AVE
BANGOR AVE
OSBORN
ORCHARD
MATCH LINE A-A WITH PLATE 4
MATCH LINE C-C WITH PLATE 6
LEGEN
SCALE OF FEET
400 0 400 800

STREET INDEX



LEGEND:

- LIMITS OF ZONES
- GARFIELD HEIGHTS CITY LIMITS
- 830 — 100-YEAR FLOOD ELEVATION REFERENCE LINE
- (5) DISTANCE FROM MOUTH IN MILES
- 2000 DISTANCE FROM MOUTH IN FEET

SCALE OF FEET
400 800 1200

NOTE:

FLOOD INSURANCE STUDY MAP WAS PREPARED FOR THE FEDERAL INSURANCE ADMINISTRATION.

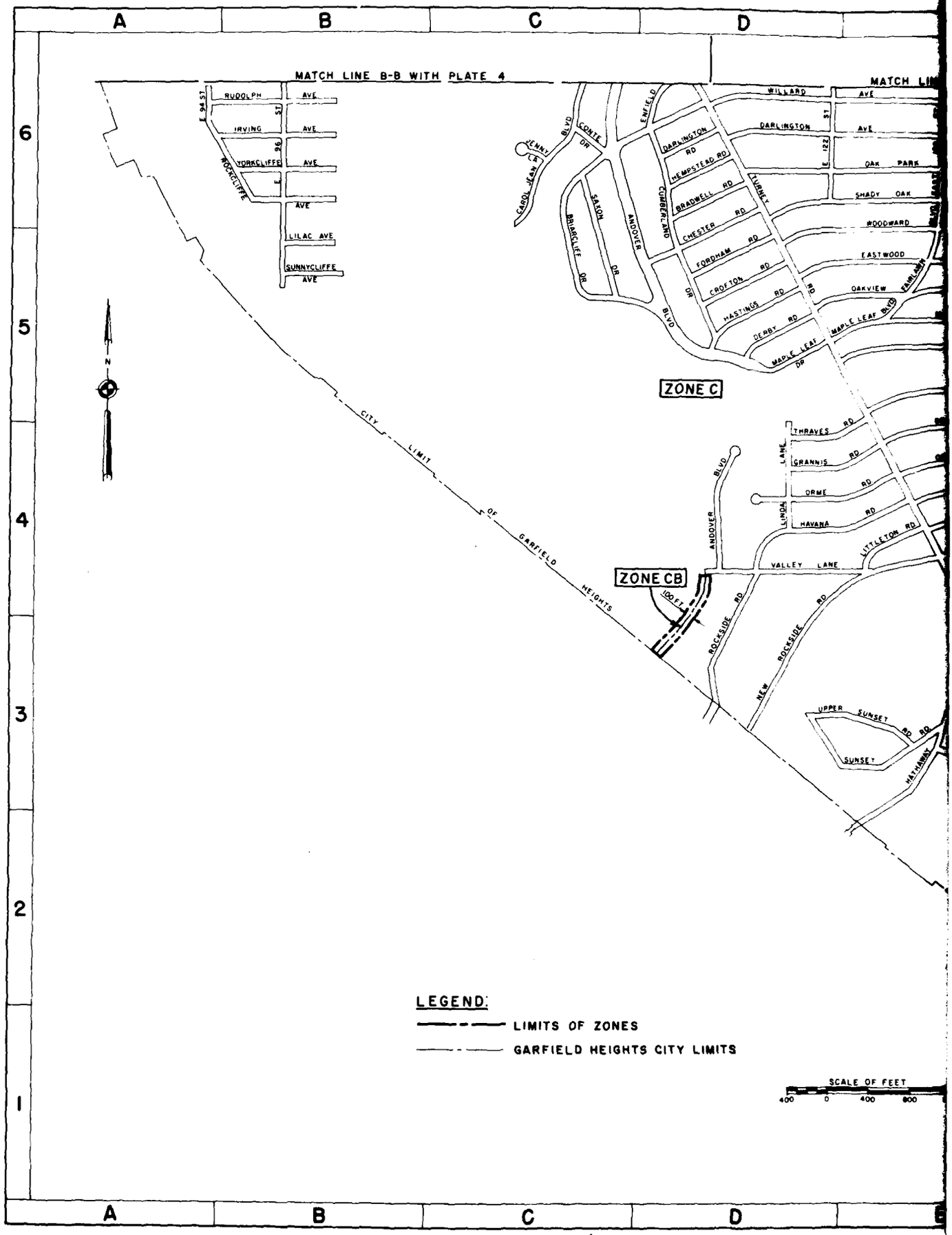
FLOOD INSURANCE STUDY

GARFIELD HEIGHTS, OHIO

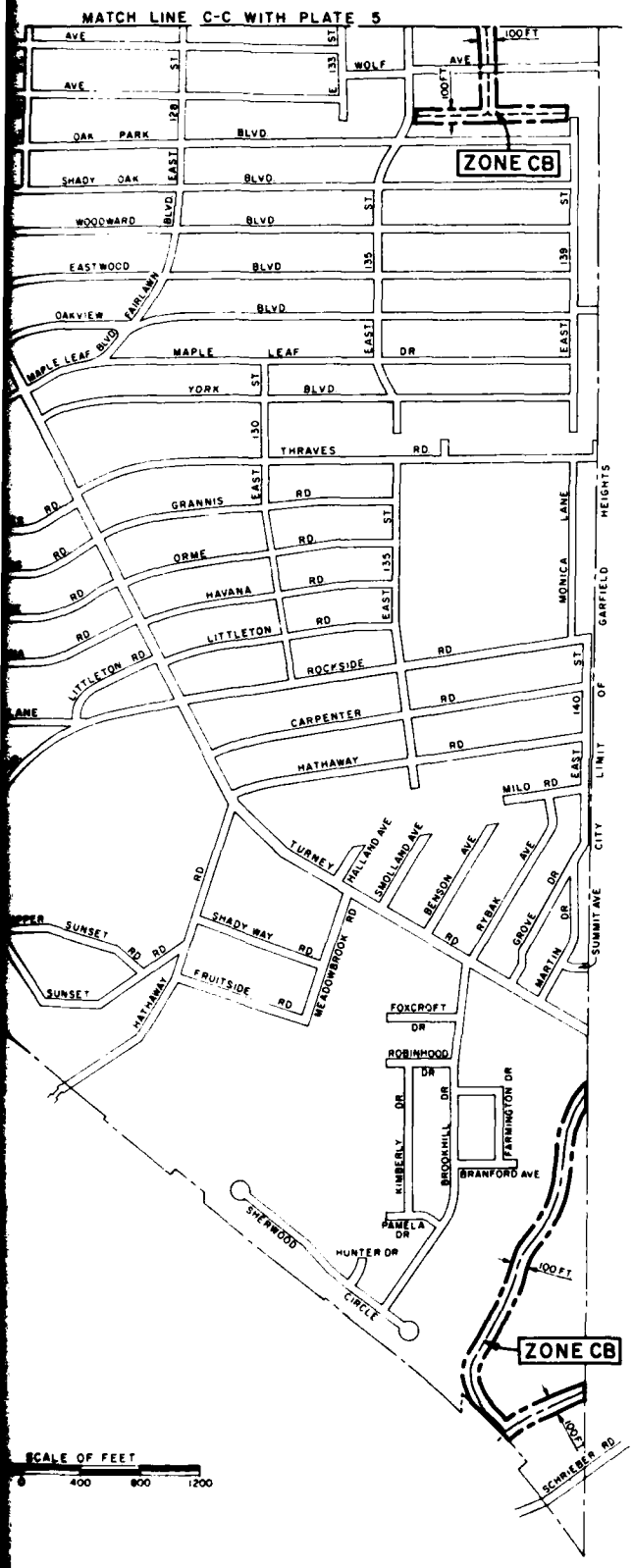
FLOOD INSURANCE STUDY MAP

U.S. ARMY ENGINEER DISTRICT, BUFFALO

MAY 1971


A
B
C
D
1
2
3
4
5
6
MATCH LINE B-B WITH PLATE 4
MATCH LI
RUDOLPH AVE
IRVING AVE
YORKCLIFFE AVE
LILAC AVE
SUNNYCLIFFE AVE
E. 94 ST
E. 96 ST
ROCKCLIFFE
JENNY LN
CAROL JEAN BLVD
CONTE DR
ENFIELD
SAXON DR
BRIARCLIFF DR
ANDOVER RD
CUMBERLAND RD
DARLINGTON RD
HEMPSTEAD RD
BRADWELL RD
CHESTER RD
FORDHAM RD
CROFTON RD
HASTINGS RD
DERBY RD
MAPLE LEAF DR
WILLARD AVE
DARLINGTON AVE
E. 122 ST
OAK PARK
SHADY OAK
WOODWARD
EASTWOOD
OAKVIEW
FAIRLAWN
MAPLE LEAF BLVD
TURNEY RD
ZONE C
CITY LIMIT OF GARFIELD HEIGHTS
THRAVES RD
GRANNIS RD
ORME RD
HAVANA RD
LITTLETON RD
LINDA LANE
ANDOVER BLVD
VALLEY LANE
ZONE CB
100 FT.
ROCKSIDE RD
NEW ROCKSIDE RD
UPPER SUNSET RD
SUNSET RD
HATHAWAY
N
LEGEND:
LIMITS OF ZONES
GARFIELD HEIGHTS CITY LIMITS
SCALE OF FEET
400 0 400 800

1



STREET INDEX

NOTE:

FLOOD INSURANCE STUDY MAP WAS PREPARED FOR THE FEDERAL INSURANCE ADMINISTRATION.

FLOOD INSURANCE STUDY

GARFIELD HEIGHTS, OHIO

FLOOD INSURANCE STUDY MAP

U.S. ARMY ENGINEER DISTRICT, BUFFALO

MAY 1971

PLATE 6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